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# Report of the Public Inquiry into **FIRE SAFETY in HIGHRISE BUILDINGS**

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## Volume 2

The Honourable  
John B. Webber,  
Judge of the  
County Court  
of the County  
of Dufferin,  
Commissioner







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## **REPORT OF THE PUBLIC INQUIRY INTO FIRE SAFETY IN HIGHRISE BUILDINGS**

**The Honourable John B. Webber  
Judge of the County Court of the County of Dufferin  
Commissioner**

**December 1983**

**Volume 2**

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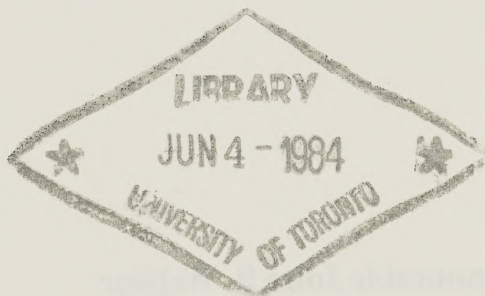
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## Volume 2

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# **PART A: RELATED TO HEARINGS**

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## **Appendix A.1**

### **LIST OF HEARING DAYS, WITNESSES, AND EXHIBITS SUBMITTED**

September 13, 1982	Opening Session	
Day 1	Roy Philippe	Volume 1
November 1, 1982	Office of the Fire Marshal of Ontario	Exhibits #3-22
Day 2	Roy Philippe	Volume 2
November 2, 1982		Exhibits #23-24
Day 3	Roy Philippe	Volume 3
November 3, 1982		Exhibits #25-32
Day 4	Roy Philippe	Volume 4
November 15, 1982		Exhibits #33-37
	Earl Hunter President, Toronto Building Superin- tendents Association	Exhibit #38
Day 5	Antonio Chow	Volume 5
November 16, 1982	Office of the Fire Marshal of Ontario	Exhibits #39A-39F, 40-41
Day 6	William Wretham	Volume 6
November 17, 1982	Fire Chief, Borough of Scarborough	Exhibits #42-44
Day 7	William Wretham	Volume 7
November 18, 1982		Exhibits #45-46
Day 8	William Wretham	Volume 8
November 22, 1982		Exhibits #47-48
	Joseph Gibson Fire Chief, City of North York	
Day 9	Joseph Gibson	Volume 9
November 23, 1982		Exhibits #49-51
	John Hess Office of the Fire Marshal of Ontario	Exhibits #52-56
Day 10	John Hess	Volume 10
November 24, 1982		Exhibit #57 (Changed to 57A-C See Day 17)
Day 11	John Hess	Volume 11
November 25, 1982		Exhibits #58-59

Day 12 November 29, 1982	John Hess	Volume 12 Exhibits #60-66, 68-70
Day 13 November 30, 1982	William Goff President, PTE Industries Inc.  Haim Zah Vice-President, PTE Industries Inc.  Dr. Lorne Gold Associate Director, Division of Building Research, National Research Council of Canada	Volume 13 Exhibits #72-74  Exhibit #75  Exhibits #76-84
Day 14 December 1, 1982	George T. Tamura Senior Research Officer Energy and Services Section Division of Building Research, National Research Council of Canada	Volume 14 Exhibits #85-87
Day 15 December 2, 1982	George T. Tamura	Volume 15 Exhibit #88
Day 16 December 9, 1982	George T. Tamura  John Hess  Joseph Gibson	Volume 16 Exhibit #89  Exhibits #67, 91-93, 95-96  Exhibit #90
Day 17 December 13, 1982	John Hess  Peter Gathercole Office of the Fire Marshal of Ontario	Volume 17 Exhibits #57A-57C, 97-98  Exhibits #100-105, 106A, B, C, K, F, 107
Day 18 December 15, 1982	Peter Gathercole	Volume 18 Exhibit #106D, E, G, H, I, J, L, M, N, O
Day 19 December 16, 1982	Peter Gathercole	Volume 19 Exhibits #108-110
Day 20 January 4, 1983	Peter Gathercole  Thomas Gordon Smith Director, Elevating Devices Branch, Technical Standards Division, Ministry of Consumer and Commercial Relations (Ontario)	Volume 20 Exhibits #111-112  Exhibits #113-114



Day 21 January 5, 1983	Edmund Moores Tuff Chairman, Canadian Standards Association, B44 Committee (Elevator Safety Code)	Volume 21 Exhibits #115-116
	Graham Adams Director, Building Code Branch, Ministry of Consumer and Commercial Relations (Ontario)	Exhibit #117
Day 22 January 6, 1983	Graham Adams	Volume 22 Exhibits #118-122
Day 23 January 10, 1983	Graham Adams	Volume 23 Exhibits #123-129
Day 24 January 17, 1983	Graham Adams	Volume 24 Exhibits #130-134
	Christopher Fillingham (brief 75) Associate and General Manager, Dunlop, Farrow, Aitken, Architects	Exhibit #135
Day 25 January 18, 1983	Dr. Richard Viau Chief, Flammability Hazards Division, Product Safety Branch, Department of Consumer and Corporate Affairs (Canada)	Volume 25 Exhibits #136-139
Day 26 January 19, 1983	Christopher Fillingham	
Day 27 January 29, 1983	Grant E. Davidson Chief Electrical Inspector, Ontario Hydro	Volume 27 Exhibits #140-142
Day 28 January 27, 1983	Christopher Fillingham	Volume 28 Exhibits #119 (revision), 145
Day 29 January 31, 1983	Edward Munro (Brief 44) Canadian Portland Cement, Ontario Region	Volume 29 Exhibit #146
	Mark Patamia (Brief 57) Executive Director, Ontario Concrete Block Association	Exhibits #147-148
	Mrs. Elsie Stiles (Brief 10) Apt. PH2, 1515 Lakeshore Rd. E. Mississauga	

	Patrick J. DeFazio (Brief 40) Firefighter Ottawa Fire Department	
	Larry D. Simonato (Brief 63) Director, Planning and Enforcement Services, City of Cambridge	
Day 30 February 1, 1983	Lyle L. MacLennan (Brief 54) Fire Chief, City of Ottawa	Exhibit #192 (See Day 42)
	Ronald W. Wheeler (Brief 39)	
	Mark Waxer) and ) (Brief 21) Karen Eluk ) Third Degree Prevention Ltd.	
	Christopher Cornish (Brief 79) President, Roxborough Developments Ltd.	Volume 30 Exhibit #149
Day 31 February 2, 1983	Christopher Cornish	Volume 31 Exhibit #150
	George A. Coleman (Brief 58) General Manager, Housing Division and Homes for the Aged, Metropolitan Toronto Housing Company Ltd.	Exhibits #152-153
	Ronald Douglas Brown (Brief 48)	
	Gerhard Jurgen Landmesser (Brief 59) President, Canadian Fire Alarm Association.	
Day 32 February 3, 1983	Gerhard Jurgen Landmesser	
	Paul Meleta (Brief 78) Quality Control Inspector, Building Department, Borough of Scarborough	
	Gerry Stephan (Brief 14) President, Help Products Limited	



Day 33 February 7, 1983	Paul Meleta	Volume 33 Exhibits #154A-154D, 155A, 156A-156B, 157 (For 155B-See Day 59)
	Donal Baird (Brief 42) Director, Fire Underwriters Survey, Insurance Bureau of Canada	Exhibit #158
	Douglas J. Beesley General Manager, Ontario Housing Corporation	Exhibits #159-166
Day 34 February 8, 1983	Douglas J. Beesley	Exhibit #167 (See Day 42)
	Graham Adams, Director, Building Code Branch, Ministry of Consumer and Commercial Relations (Ontario)	
	Peter L.E. Goering (Brief 5) Architect	Exhibit #168
Day 35 February 9, 1983	Byron M. Johnson (Brief 61) President, Springfield Environmental Research Ltd.	Volume 35 Exhibit #169
Day 36 February 10, 1983	Gerhard Granek (Brief 15) Principal, The ECE Group Ltd. Mechanical/Electrical Consulting Engineers	Volume 36 Exhibit #170
Day 37 February 14, 1983	Jake (J.L.) Pauls, Sr. Research Officer Bio-Medical Engineering Section, National Research Council of Canada	Volume 37 Exhibits #171-172
Day 38 February 15, 1983	Jake (J.L.) Pauls	
	Jack Hastings Manager, Safety Section Employee Advisory Service Branch, Ministry of Government Services (Ontario)	Volume 38 Exhibits #173-177
Day 39 February 16, 1983	John Russell Bateman Fire Marshal for the Province of Ontario	Volume 39 Exhibits #178-180
Day 40 February 28, 1983	Dr. John L. Bryan Professor and Chairman Fire Protection Engineering Department, University of Maryland	Volume 40 Exhibits #181-184

Day 41 March 1, 1983	Dr. Ann Cavoukian Research Analyst, Ministry of the Attorney General (Ontario)	Volume 41 Exhibit #185
Day 42 March 3, 1983	Rudy Palladina (Brief 42) Regional Marketing Manager, Bell Helicopter Textron  Rick Gerundin Ontario Provincial Police  Paul Hirst Kevill (Brief 30) Society of Fire Protection Engineers, Southern Ontario Chapter  Christopher C. Hart (Brief 30) Director of Legal Services, Association of Professional Engineers of Ontario  Alan James Hill (Brief 30) Society of Fire Protection Engineers	Volume 42 Exhibits #194-197          Exhibits #198A-198D
Day 43 March 7, 1983	Norman Pearce (Brief 17) Vice-President and Chief Engineer, Underwriters' Laboratories of Canada  Christopher C. Hart (Brief 17)  Jack McFadden (Brief 17) Chief Fire Prevention Officer, City of Toronto  William Sproule (Brief 17) Assistant Deputy Fire Chief, City of Toronto	Volume 43 Exhibits #199-205       Exhibits #206-208
Day 44 March 8, 1983	William Sproule  Bernard Bonser (Brief 17) Fire Chief, City of Toronto	Volume 44 Exhibits #209-210
Day 45 March 9, 1983	Rashmi Nathwani (Brief 17) Deputy Chief Building Official and Director of Plan Examination, City of Toronto	Volume 45 Exhibits #211-218
Day 46 March 10, 1983	Rashmi Nathwani  Michael Nixon (Brief 17) Chief Building Official City of Toronto	



	Charles Greenberg (Brief 17) Director of Practice, Ontario Association of Architects	Volume 46 Exhibit #219
Day 47 March 14, 1983	Christopher Fillingham (Brief 75) Associate and General Manager, Dunlop, Farrow, Aitken, Architects	Volume 47 Exhibit #220
	Robert T. Myles (Brief 75) Vice-President, Hanscomb Consultants Inc. Cost Accountants	Exhibits #221-223
Day 48 March 15, 1983	Robert T. Myles  Christopher Fillingham John Bassel (Brief 75) President, Metropolitan Toronto Apartment Builders' Association	
Day 49 March 16, 1983	John Bassel	Volume 49 Exhibit #224
	Robert T. Myles	Exhibit #225
Day 50 March 17, 1983	Marvin Sadowski (Brief 75) Chairman, Management Group of the Apartment Group, Urban Development Institute	Volume 50 Exhibits #227-233
Day 51 April 5, 1983	Donald J. Boehmer (Brief 77) Vice-President and Manager Rolf Jensen and Associates, Consulting Fire Protection Engineers	Volume 51 Exhibits #20A, 234-236
Day 52 April 6, 1983	Donald J. Boehmer  Jack Gringorten Senior Vice-President, Property Administration of Office Buildings, Olympia and York Developments	Volume 52 Exhibits #237-239
Day 53 April 12, 1983	Jack Gringorten	Volume 53 Exhibit #241
Day 54 April 12, 1983	George V. Tatham (Exhibit 34) Senior Vice-President, Oxford Development Group Limited, Canadian Division	Volume 54 Exhibits #242-246

Day 55 April 13, 1983	John W. Fothergill (Brief 4) Principal, Integrated Systems Incorporated Brunswick, Maryland	Volume 55 Exhibits #247-248
	Harry Shaw (Brief 4) Fire Protection Consultant Rockville, Maryland	Exhibits #188A, 249-256
Day 56 April 14, 1983	Walter William Miller (Brief 4) Vice-President Wormald Fire Systems	Volume 56 Exhibit #257
	Douglas Howes (Brief 4) Vice-President, Bennett & Wright (Ret.) Mechanical Contractors	Exhibits #258-259
	Alvin McBride (Brief 4) Business Manager, U.A. Local 853 Sprinkler Fitters of Ontario	Exhibit #260
	William Kennally (Brief 4) Director of Information, Canadian Automatic Sprinkler Association	Exhibits #261-264
Day 57 April 18, 1983	John Haunts (Brief 25) Fire Safety Committee, Ontario Hotel and Motel Association	Volume 57
	Russell W. Cooper (Brief 25) Executive Director, Ontario Hotel and Motel Association	
	David Charles Moulds (Brief 35) Safety Supply Canada	
Day 58 April 19, 1983	Junie Boudreau (Brief 33) Member, Regent Park Residents Association	
	Fred Bever (Brief 33) Community Legal Worker, Parkdale Legal Services	Volume 58 Exhibits #265-267
	Dale Martin (Brief 33) Chairperson, Federation of Metropolitan Toronto Tenants' Associations	Exhibit #268
Day 59 April 26, 1983	J.A. Euclid Herie (Brief 76) Executive Director, Canadian National Institute for the Blind	Volume 59 Exhibits #269-270



	Mrs. Joyce Thompson (Brief 76) Case Manager, Deaf/Blind Services, and Orientation and Mobility Instructor, Canadian National Institute for the Blind	
	Ronald Bowman (Brief 29) Executive Vice-President, Ontario Professional Fire Fighters Association	
Day 60 April 27, 1983	George Fleming (Brief 78) Building Commissioner, Borough of Scarborough	Volume 60 Exhibits #282-285
Day 61 May 2, 1983	David Hodgson Director, Building Code Branch Ministry of Municipal Affairs and Housing (Ontario)	Volume 61 Exhibit #130 (replacement)
	Roy Philippe Office of the Fire Marshal of Ontario	Exhibits #286-289
	John Hess Office of the Fire Marshal of Ontario	Exhibits #56A, 290-294

\* \* \* SUBMISSIONS \* \* \*

Day 62 May 24, 1983	Victor L. Freidin Counsel to the Commission
Day 63 May 25, 1983	Victor L. Freidin
Day 64 May 29, 1983	Victor L. Freidin
	Karl Jaffary, Q.C. Counsel for HUDAC, UDI & MTABA
	B.S. Onyschuk, Q.C. Counsel for CIPREC, ICSC & BOMA
Day 65 May 31, 1983	Demir Delen, P.Eng. for the City of Toronto
Day 66 June 1, 1983	Theresa Kowalishin Counsel for the City of Toronto
Day 67 June 6, 1983	William Kennally for the Canadian Automatic Sprinkler Association
	Victor L. Freidin (reply)

**SUPPLEMENTARY LIST OF EXHIBITS  
SUBMITTED THROUGH COMMISSION COUNSEL**

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Opening Session	Exhibits # 1-2
September 13, 1982	
Day 14	Volume 14
December 1, 1982	Exhibit # 51 (index)
Day 16	Volume 16
December 9, 1982	Exhibit # 94
Day 17	Volume 17
December 13, 1982	Exhibit # 99
Day 21	Volume 21
January 5, 1983	Exhibit # 86A
Day 28	Volume 28
January 27, 1983	Exhibits # 143-144
Day 31	Volume 31
February 2, 1983	Exhibit # 151
Day 42	Volume 42
March 3, 1983	Exhibits # 167,186-193
Day 50	Volume 50
March 17, 1983	Exhibits # 193(a), 226
Day 53	Volume 53
April 7, 1983	Exhibit # 240
Day 54	Volume 54
April 12, 1983	Exhibit # 160A
Day 59	Volume 59
April 26, 1983	Exhibits # 98, 155B, 271-281
Day 61	Volume 61
May 2, 1983	Exhibits # 295-296
Day 62	Volume 62
May 24, 1983	Exhibits # 297-312
Day 66	Volume 66
June 1, 1983	Exhibit # 313

**ADDITIONAL DOCUMENTS MADE EXHIBITS  
AFTER CLOSE OF HEARINGS**

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Exhibit #314  
Exhibit #315  
Exhibit #316

## **Appendix A.2**

### **LIST OF PARTICIPANTS WITH STANDING**

Bell Helicopter Textron  
Berhold Investments Ltd.  
Building Owners and Managers Association  
Canadian Automatic Sprinkler Association  
Canadian Institute of Public Real Estate Companies  
City of Toronto  
Federation of Metropolitan Toronto Tenants' Associations  
Housing and Urban Development Association of Canada  
(Ontario Council)  
International Council of Shopping Centres, Canadian Committee  
Metropolitan Toronto Apartment Builders' Association  
Ontario Association of Fire Chiefs  
Ontario Hotel and Motel Association  
Ontario Professional Fire Fighters Association  
PTE Industries Inc.  
Safety Supply Canada  
Society of Fire Protection Engineers,  
Southern Ontario Chapter  
Unitronex Constructors Ltd.  
Urban Development Institute, Apartment Group  
Mr. Lewis V. Vaughan, P.Eng.



## Appendix A.3A

### NUMERICAL LIST OF BRIEFS (\* Those granted standing)

No.	Submission made by
1.	Mr. J. H. McGuire
2.	Mr. George W. Copeland, Q.C.
3.	Dr. and Mrs. Donald T. Wigle
4.	*Canadian Automatic Sprinkler Association
5.	Peter L. E. Goering, Architect
6.	Insurers' Advisory Organization of Canada
7.	Mr. Claude LeBlanc
8.	*PTE Industries Inc.
9.	Mr. Ken H. Newton
10.	Mrs. Elsie Stiles
11.	Mr. Nelson Brown
12.	Ms. Florence Veale
13.	Miss Myrtle E. Smith
14.	Help Products Ltd.
15.	The ECE Group Ltd., Consulting Engineers
16.	Newage Equipment Ltd.
17.	*City of Toronto
18.	Ms. Florence McLachlan
19.	City of Orillia Fire Department
20.	Ontario Building Officials Association Inc.
21.	Third Degree Prevention Ltd.
22.	Canadian Foundry Association. Cast Iron Soil Pipe Division
23.	*Unitronex (Electronics) Constructors Ltd.
24.	*Bell Helicopter Textron
25.	*Ontario Hotel and Motel Association
26.	*Ontario Association of Fire Chiefs
27.	U. A. Local 853, Sprinkler Fitters of Ontario
28.	*Berhold Investments Limited
29.	*Ontario Professional Fire Fighters Association
30.	*Society of Fire Protection Engineers (Southern Ontario Chapter)

No.	Submission made by
31.	Mr. & Mrs. Cecil W. Rose
32.	City of Sarnia, Chief Building Official
33.	*Federation of Metropolitan Toronto Tenants' Associations
34.	*Building Owners & Managers Association of Metropolitan Toronto (BOMA)
35.	*Safety Supply Canada
36.	Mr. Douglas M. DeHart
37.	Halton Condominium Corporation Number 77. Fire Safety Committee
38.	Town of Elliott Lake Fire Department
39.	Mr. R. W. Wheeler
40.	Mr. Patrick J. DeFazio, Firefighter, Ottawa Fire Department
41.	Hamilton Fire Department
42.	Insurance Bureau of Canada
43.	The State Electric Company Limited
44.	Canadian Portland Cement Association
45.	Toronto Building Superintendents' Association (TBSA)
46.	Mr. P. Frame
47.	Mr. Carl M. Lewis
48.	Mr. Ronald D. Brown
49.	City of Kitchener. Department of Planning & Development
50.	Carleton Condominium Corporation #25
51.	Gloucester Fire Department
52.	Canadian Association of Fire Chiefs Inc.
53.	The Fire Chiefs in the Municipality of Metropolitan Toronto
54.	Ottawa Fire Department
55.	Dupont Canada Inc.
56.	City of Mississauga Fire Department
57.	Ontario Concrete Block Association
58.	The Metropolitan Toronto Housing Company Ltd.
59.	Canadian Fire Alarm Association
60.	City of Windsor. Office of the Clerk
61.	Rehabilitation Institute of Ottawa
62.	Regent Park Residents Association
63.	City of Cambridge. Planning & Enforcement Services
64.	City of Guelph Fire Department
65.	Province of Manitoba. Office of the Fire Commissioner
66.	Province of Saskatchewan. Department of Labour and Manpower
67.	Province of New Brunswick. Department of Labour and Manpower

68. Fire Commissioner of Canada
69. Fire Prevention Canada (FIPRECAN) Association
70. Province of British Columbia. Office of the Fire Commissioner
71. City of Peterborough. City Administrator's Office
72. City of London. Department of City Clerk
73. Mrs. Dorothy Beckett
74. Ontario March of Dimes,  
and The Muscular Dystrophy Association of Canada
75. \*Urban Development Institute. Apartment Group  
\*Metropolitan Toronto Apartment Builders' Association  
\*Housing & Urban Development Association of Canada, Ontario Council
76. The Canadian National Institute for the Blind, Ontario Division
77. \*The Canadian Institute of Public Real Estate Companies
78. G. H. Fleming, P.Eng.
79. Roxborough Development Limited
80. City of North York. Building Department
81. Ontario Association of Architects
82. Pyrotronics Canada Limited
83. City of Port Hope. Clerk-Administrator
84. Mr. Karl Haab
85. Pyrotenax of Canada Limited
86. The London Property Management Association (LPMA)
87. Province of Alberta. Office of the Fire Commissioner
88. Town of Whitby Fire Department
89. Ontario Municipal Fire Prevention Officers Association
90. Canadian Condominium Institute
91. Sid Shear Limited
92. Pennwalt of Canada Ltd.
93. Mr. R. B. Pierce (Safescape)



## Appendix A.3B

### BRIEFS BY AUTHOR : INDIVIDUALS

Brief No.	Name
73	Mrs. Dorothy Beckett
11	Mr. Nelson Brown
48	Mr. Ronald D. Brown
2	Mr. George W. Copeland, Q. C.
36	Mr. Douglas M. DeHart
78	Mr. G. H. Fleming, P.Eng.
46	Mr. P. Frame
5	Mr. Peter L. E. Goering
84	Mr. Karl Haab
7	Mr. Claude LeBlanc
47	Mr. Carl M. Lewis
1	Mr. J. H. McGuire
18	Ms. Florence McLachlan
9	Mr. Ken H. Newton
31	Mr. and Mrs. Cecil W. Rose
13	Miss Myrtle E. Smith
10	Mrs. Elsie Stiles
12	Ms. Florence Veale
39	Mr. R. W. Wheeler
3	Dr. and Mrs. Donald T. Wigle

**BRIEFS BY AUTHOR :**  
**ORGANIZATIONS/ASSOCIATIONS**  
 (\*Those granted standing)

<b>Brief No.</b>	<b>Name</b>
34	*Building Owners & Managers Association of Metropolitan Toronto (BOMA)
52	*Canadian Association of Fire Chiefs
4	*Canadian Automatic Sprinkler Association
90	Canadian Condominium Institute
59	Canadian Fire Alarm Association
22	Canadian Foundry Association. Cast Iron Soil Pipe Division
77	*The Canadian Institute of Public Real Estate Companies
76	The Canadian National Institute for the Blind, Ontario Division
44	Canadian Portland Cement Association
33	*Federation of Metropolitan Toronto Tenants' Associations
53	The Fire Chiefs in the Municipality of the City of Toronto
69	Fire Prevention Canada (FIPRECAN) Association
75	*Housing and Urban Development Association of Canada, Ontario Council
42	Insurance Bureau of Canada
6	Insurers' Advisory Organization of Canada
86	The London Property Management Association (LPMA)
75	*Metropolitan Toronto Apartment Builders' Association
74	Muscular Dystrophy Association of Canada
81	Ontario Association of Architects
26	*Ontario Association of Fire Chiefs
20	Ontario Building Officials Association Inc.
57	Ontario Concrete Block Association
25	*Ontario Hotel & Motel Association
74	Ontario March of Dimes
89	Ontario Municipal Fire Prevention Officers Association
29	*Ontario Professional Fire Fighters Association
62	Regent Park Residents Association
61	Rehabilitation Institute of Ottawa
30	*Society of Fire Protection Engineers (Southern Ontario Chapter)
45	Toronto Building Superintendents' Association
27	U. A. Local 853, Sprinkler Fitters of Ontario
75	*Urban Development Institute. Apartment Group

**BRIEFS BY AUTHOR: GOVERNMENTS: MUNICIPAL,  
PROVINCIAL & NATIONAL**

(\* Those granted standing)

<b>Brief No.</b>	<b>Name</b>
68	Fire Commissioner of Canada
63	City of Cambridge. Planning and Enforcement Services
49	City of Kitchener. Department of Planning and Development
72	City of London. Department of City Clerk
80	City of North York. Building Department
71	City of Peterborough. City Administrator's Office
32	City of Sarnia. Chief Building Official
17	*City of Toronto
70	Province of British Columbia. Office of the Fire Commissioner
65	Province of Manitoba. Office of the Fire Commissioner
67	Province of New Brunswick. Department of Labour and Manpower
66	Province of Saskatchewan. Office of the Fire Commissioner
83	Town of Port Hope. Clerk-Administrator



**BRIEFS BY AUTHOR : FIRE DEPARTMENTS**  
**(\* Those granted standing)**

<b>Brief No.</b>	<b>Name</b>
51	Gloucester Fire Department
64	Guelph Fire Department
41	Hamilton Fire Department
56	City of Mississauga Fire Department
19	City of Orillia Fire Department
54	Ottawa Fire Department
60	City of Windsor. Office of the Clerk
40	Mr. Patrick J. DeFazio, Firefighter, Ottawa Fire Department
38	Town of Elliot Lake Fire Department
88	Town of Whitby Fire Department

## BRIEFS BY AUTHOR: PRIVATE FIRMS

(\* Those granted standing)

Brief No.	Name
24	*Bell Helicopter Textron
28	*Berhold Investments Ltd.
50	Carleton Condominium Corporation #25
55	Dupont Canada Inc.
15	The ECE Group Limited, Consulting Engineers
37	Halton Condominium Corporation #77. Fire Safety Committee
14	Help Products Ltd.
58	Metropolitan Toronto Housing Company Ltd.
16	Newage Equipment Ltd.
8	*PTE Industries Inc.
82	Pyrotronics Canada Ltd.
79	Roxborough Development Limited
35	*Safety Supply Canada
91	Sid Shear Limited
43	The State Electric Company Limited
21	Third Degree Prevention Ltd.
23	*Unitronex (Electronics) Constructors Ltd.
92	Pennwalt of Canada Ltd.
93	Mr. R.B. Pierce (Safescape)
85	Pyrotenax of Canada Ltd.

## **Appendix A.4A**

### **WITNESSES CALLED BY COMMISSION COUNSEL**

Mr. Graham Adams  
Mr. John R. Bateman  
Mr. Douglas Beesley  
Dr. John L. Bryan  
Dr. Ann Cavoukian  
Mr. Antonio Chow  
Mr. Grant E. Davidson  
Mr. Christopher T. Fillingham  
Mr. Peter Gathercole  
Mr. Joseph Gibson  
Mr. Peter L.E. Goering  
Dr. Lorne Gold  
Mr. Gerhard Granek  
Mr. John Hastings  
Mr. John Hess  
Mr. David Hodgson  
Mr. Byron M. Johnson  
Mr. Jake (J.L.) Pauls  
Mr. Roy Philippe  
Mr. Thomas Gordon Smith  
Mr. George T. Tamura  
Mr. Edmund Moores Tuff  
Dr. Richard Viau  
Mr. William Wretham



## Appendix A.4B

### QUALIFICATIONS OF WITNESSES CALLED BY COMMISSION COUNSEL

Name:	<b>Graham Adams</b>
Present Position:	Director* Building Code Branch, Ministry of Consumer and Commercial Relations (Ontario)
Education:	University of Toronto (1952) Degree: Bachelor of Architecture
Memberships: (past & present)	Royal Architectural Institute of Canada Ontario Association of Architects Canadian Institute of Planners Revision Committee on Administration of the ACNBC (1958-1960) Standing Committee on Residential Standards of the ACNBC Associate Committee and Executive Committee on the National Fire Code Provincial Advisory Committee on the National Building Code (Vice-Chairman, 1981-1983) ACNBC Task Group on High Buildings CMHC Task Group on National Building Materials Evaluation System
Experience:	
1952-1955	Private Architectural Practice
	<i>Government of Ontario</i>
1955-1960	Department of Planning and Development, Community Planning Branch
1960-1962	Supervisor of Zoning
1962-1966	Supervisor of Subdivision Approvals Section
1966-1970	Head of Extension and Field Services, Community Planning Branch (Municipal Affairs)
1970-1975	Director, Uniform Building Standards Branch
1976-1983	Director, Building Code Branch

\*On February 1, 1983, The Building Code Branch was transferred to the Ministry of Municipal Affairs and Housing, and David Hodgson undertook the duties of Director.

**Name:** **John R. Bateman**  
**Present Position:** Fire Marshal of Ontario  
**Education:** University of Toronto (1957)  
Degree: Bachelor of Applied Science,  
Engineering and Business  
**Memberships:** National Fire Protection Association  
(past & Society of Fire Protection Engineers  
present) Canadian Fire Safety Association  
Association of Professional Engineers of Ontario  
Fire Test Board of National Building Code  
Associate Committee on the National Fire Code  
**Experience:**  
1963-1975 Assistant Chief Engineer of Fire Engineering  
Section, Office of the Fire Marshal  
1975-1977 Deputy Fire Marshal of Ontario  
1977-present Fire Marshal of Ontario

**Name:** **Douglas J. Beesley**  
**Present Position:** General Manager, The Ontario Housing Corporation  
**Education:** University of Toronto (1957)  
Degree: Bachelor of Applied Science  
(Civil Engineering)  
**Memberships:** Association of Professional Engineers of Ontario  
Fellow of the Institute of Housing Management  
**Experience:**  
1961-1964 Ontario Department of Economics, Branch Engineer  
1964-present Ontario Housing Corporation

**Name:** **Dr. John L. Bryan**  
**Present Position:** Professor and Chairman of the Fire Protection  
Engineering Department, University of Maryland  
**Memberships:** Safety to Life Committee, NFPA 101 (Life Safety Code)  
(past & Subcommittee on Means of Egress, NFPA 101  
present) (Life Safety Code)  
American Association for the Advancement of Science  
National Fire Protection Association  
Society of Fire Protection Engineers  
American Society for Engineering Education  
Chesapeake Chapter, Society of Fire  
Protection Engineers  
Committee E-5, Fire Tests, American Society for  
Testing and Materials  
American Association of University Professors  
Fire Council, Underwriters' Laboratories, Inc.  
**Experience:**  
(selected)  
1956 Flynn and Emrich Co.  
1960-1965 Explosion and fire investigation and preventive  
recommendations. United States Coast Guard

1965-1966	Consultant to American Iron and Steel Institute
1970-1972	Consultant to Fire Protection and Safety Engineering Committee, Federal Construction Council
1956-present	Professor and Chairman of Fire Protection Engineering Department, University of Maryland
	Twenty-two years of paid and volunteer fire department experience

**Publications:**  
(selected)

1958	Psychology of Panic
1970	Motivation and Attitude Formation in Relation to Fire Prevention
1975	Human Behaviour in the Fire Situation
1977	Smoke as a Determinant of Human Behaviour in Fire Situations (Project People)
1978	Human Behaviour in Fire; a Bibliography
1979	Human Behaviour in a Hospital Fire
1980-81	The Determination of Behaviour Response Patterns in Fire Situations (Project People II)
1980	An Examination and Analysis of the Dynamics of the Human Behaviour in the MGM Grand Hotel
1982	Human Behaviour in the MGM Grand Hotel
1982	Implications for Codes & Behaviour Models from the Analysis of Behaviour Response Patterns in Fire Situations as selected from the Project People and Project People II Study Programs

**Name:** **Dr. Ann Cavoukian**

**Present Position:** Research Analyst

**Education:** University of Toronto (1980)  
Degree: PhD (Psychology)

**Experience:**

1981	Attorney General for the Province of Ontario Research Analyst
1981	Task Force on Vandalism Research Consultant

**Publications:**  
(Selected)

1978	Evaluation of a Delinquency Prevention Program: Lifeline
1979	An Examination of the concept of Juvenile Diversion
1980	The Admissibility of Polygraph Evidence in a Court of Law: Some Empirical Findings (with Ronald Heslegrave)
1980	Determinants of Behavioural Contagion: Density and the Number of People (with Jonathan Freedman and Joanna Birsky)
1983	High Rise Fire Safety; Questionnaire Conducted in Apartment Buildings and Hotels.

**Name:** **Antonio Chow**

**Present Position:** Acting Assistant Chief of Consulting Services,  
Office of the Fire Marshal (Ontario)

**Education:** Brixton School of Building  
Hammersmith College (1962)  
Civil Engineer: U.K.

**Memberships:** Association of Professional Engineers of Ontario  
(past & present) Institution of Structural Engineers of  
Great Britain

**Experience:**  
1964-1967 Structural Engineer, England & Hong Kong  
1967-1970 Structural Engineer, Ontario  
1970-1977 Plans Examination and Approval,  
City of Toronto Building Department  
1977-1982 Plans Examination and Approval Office  
of the Fire Marshal

**Name:** **Grant E. Davidson**

**Present Position:** Chief Electrical Inspector, Ontario Hydro

**Education:** University of Toronto (1943)  
Degree: Bachelor of Applied Science  
(Electrical Engineering)

**Memberships:** Association of Professional Engineers of Ontario  
Chartered Institution of Building Services  
(U.K.) (Fellow)

**Experience:**  
1946-1971 Research division (radiation optics) (Ontario Hydro)  
1971-1976 Supervising electrical inspection engineer,  
Electrical Inspection Department (Ontario Hydro)  
1977-present Chief Electrical Inspector, Ontario Hydro

**Name:** **Christopher T. Fillingham**

**Present Position:** Associate and General Manager; Dunlop  
Farrow, Aitken\*

**Education:** University of Toronto, (1968)  
Degree: Bachelor of Architecture

**Memberships:** Ontario Association of Architects  
(past & present) Royal Architectural Institute of Canada  
Canadian Fire Safety Association  
Standing Committee on Fire Safety in Buildings,  
for the National Fire Code, Part 2.6.7  
Ontario Fire Code Advisory Committee  
Joint Construction Council of UDI/MTABA  
(Chairman)  
Task Group preparing requirements for Fire Fighter  
Access to Buildings for National Building Code  
(Chairman)  
Advisory Committee to the Ministry of Municipal  
Affairs and Housing on the Renovation Requirements  
(Part Eleven of the OBC)



High Rise Task Group of the Use and Occupancy  
 Committee of the National Building Code  
 Ontario Fire Code Task Group on Part 9 — Retrofit  
 (Chairman of the Health Care Facilities Committee  
 of the Task Group)  
 National Fire Protection Association  
 Part 3 Use and Occupancy Standing Committee of the  
 National Building Code

Experience:

1968-1969	Architect with Harry P. Smith, Kingston
1969-1971	Architect with Yamazaki & Greig, Toronto
1971-1972	Partner of Integrated Management Planning
1972-1981	Architect with Dunlop, Farrow, Aitken
1981-present	Associate and General Manager, Dunlop, Farrow, Aitken

\*On July 1, 1983 Mr. Fillingham became a partner of Dunlop,  
 Farrow, Aitken, Cansfield.

Publications:

1974-1975	Co-author of reports entitled: — A Study of the Additional Requirements for High Buildings Proposed in Change Series No. 3 to N.B.C. Subsection 3.2.6. — A Study of the Requirements contained in the Second Edition of the National Fire Code of Canada, Part 2, Building and Occupant Fire Safety; Draft for Public Comment — A Report on the Implications of the Requirements for Access for the Handicapped contained in Builders' Bulletin No. 243 issued by C.M.H.C., April 17, 1975
1981-1982	— A Study of the Additional Requirements for New High Commerical Buildings for the Building Code Branch of the Ministry of Consumer and Commercial Relations, Province of Ontario

Name: **Peter Gathercole**

Present Position: Investigation Services  
 Office of the Fire Marshal

Education: Rotherham College of Technology & Art,  
 Rotherham, England (1950)  
 Degree: Higher National Certificate in Mechanical  
 Engineering (1950)  
 North Staffordshire College of Technology,  
 Stoke-On-Trent, Staffordshire, England (1952)  
 Degree: Ordinary National Certificate in  
 Electrical Engineering  
 Derby College of Technology & Art,  
 Derbyshire, England (1954)  
 Degree: Higher National Certificate in  
 Electrical Engineering

Membership: Association of Professional Engineers of Ontario

Experience:

1950-1952 English Electric Company Limited,  
Stafford, England.

1952-1954 Rolls-Royce Limited, Derby, England,

1955-1959 Orenda Engines Limited, Malton, Ontario.  
Test Engineer.

1959-1962 Rover Company Limited, Solihull, England.  
Development Engineer.

1962-1968 Orenda Engines Limited, Malton, Ontario.  
Design, test, and development engineer.

1968-to date Office of the Fire Marshal of Ontario.

- Plan examination for fire safety for hotels; colleges & universities;  
nursing homes
- Specialized studies involving high rise buildings
- Rendered technical assistance to the Fire Investigations Section of this  
Office in the investigation of fire and explosions, in all types of  
buildings and occupancies and in automobiles.
- Lectures on the principles of fire safety and protection in buildings and  
on electrical fire hazards, at the Ontario Fire College, the Canadian Fire  
Investigations School in Arnprior, Ontario, and at the  
Aylmer Police College.

Name: **Joseph Gibson**

Present Position: Fire Chief for the City of North York

Experience:

1956-1962 Firefighter

1962-1972 Captain

1972-1975 District Chief

1975-present Fire Chief for the City of North York

Name: **Peter L. E. Goering**

Present Position: Architect

Education: University of Toronto (1955)  
Degree: Bachelor of Architecture

Memberships: Royal Architectural Institute of Canada  
Ontario Association of Architects

Experience: Private practice since 1971  
Partner — Somerville, McMurich and Oxley  
Architects, 10 years  
Associate — Raymond Moriyama, Architects and  
Planners, 2 years  
Part-time Lecturer  
— University of Toronto (Architecture)  
— University of Waterloo (Architecture)

Papers presented:

1971(London) Royal Society

1972 International Council for Building Research  
(Stockholm) and World Meteorological Organization

1973 (New York) BRI Workshop (National Research Council,  
Washington, D.C.)  
1974(Stuttgart) Institute for Lightweight Structures  
1976(Montreal) WCOSE '76 (International Association of  
Spatial Structures)  
1980(New Orleans) International Association of Stadium Managers

**Name:** **Dr. Lorne Gold**  
**Present Position:** Associate Director of the Division of Building Research,  
National Research Council of Canada  
**Education:** University of Saskatchewan (1950)  
Degree: Bachelor of Science (Engineering Physics)  
McGill University (1952)  
Degree: Masters (Physics)  
McGill University (1970)  
Degree: Ph.D. (Physics)  
**Research and  
Experience:**  
1953-1969 NRC — Division of Building Research, Ice & Snow  
Research Section  
1969-1974 NRC — Division of Building Research,  
Head of Geotechnical Section  
1974-1979 Assistant Director, Division of Building Research  
1979-Present Associate Director, Division of Building Research  
**Memberships:** Association of Professional Engineers of Ontario  
(past & present) Engineering Institute of Canada  
Canadian Geotechnical Society  
Canadian Society for Civil Engineers  
International Glaciological Society  
Arctic Institute of North America  
Affiliate of the Canadian Association of Physicists  
International Glaciological Society (past President)  
Associate Committee on Geotechnical Research  
(Chairman — 1976-1983)  
Fellow of the Royal Society of Canada

**Name:** **Gerhard Granek, P. Eng.**  
**Present Position:** Principal, The ECE Group Ltd.  
**Education:** University of Toronto (1948)  
Degree: Bachelor of Science (Honours)  
**Memberships:** Association of Professional Engineers of Ontario  
(past & present) Association of Consulting Engineers of Canada  
NRC Task Force, High Rise Life Safety  
The Solar Institute  
Urban Development Institute  
CSA Committee on Environmental Control in  
Hospitals  
Advisory Committee, Ryerson Institute  
**Experience:** Frost & Granek Associates, Consulting Engineers  
Page & Steele, Architects

1955-present Meschino & Associates, Consulting Engineers  
 Bennett & Wright Ltd., Contractors  
 Shore & Moffatt, Architects  
 Hydro Electric Power Commission of Ontario  
 Principal, The ECE Group Ltd.  
 Part-time Lecturer to OAA Registration  
 Course and Schools of Architecture at the University  
 of Toronto and Carleton University

**Publications:**  
 (Selected)

1973 The Economics of Air Conditioning in Hospitals  
 1975 Learning to Cope with the Crisis of Energy and  
 Economics in Our Hospitals  
 1975 Fire Management — 1975  
 1979 Design for Retrofit — Planning for Future Change

**Name:** **John Hastings**

**Present Position:** Manager of Safety Section,  
 Employee Advisory Service Branch,  
 Ministry of Government Services (Ontario)

**Responsibilities:** Responsible for the occupational safety of government  
 employees in government owned buildings and  
 buildings leased by the government.

**Employment**  
**History:**

1947-1967 Toronto Fire Department  
 Firefighter; Captain  
 1967-1977 Safety Administrator  
 Maple Leaf Mills  
 1977-1981 Safety Manager  
 Ministry of Natural Resources (Ontario)  
 1981-present Ministry of Government Services

**Name:** **John Hess**

**Present Position:** Co-ordinator of the Hotel Fire Safety Services Unit  
 Office of the Fire Marshal (Ontario)

**Responsibilities:** Administration of the Hotel Fire Safety Act including:  
 — inspection of hotels (63 inspectors)  
 — developing training programs for hotel staff  
 — fire safety procedures and training  
 — enforcement.

**Experience:**

1959-1965 Scarborough Fire Department  
 Firefighter; Fire Prevention Officer  
 1966-1968 T. Eaton Company, Fire Chief, Central Division  
 1968-1977 Ministry of Health for the Province of Ontario,  
 Consultant in Fire Safety of Explosion Hazards  
 (Ontario Hospital Services Commission)  
 1977-1979 Ministry of Government Services (Ontario)  
 Supervisor of the Safety Section



1979-1981      Office of the Fire Marshal (Ontario)  
                     Supervisor of the Fire Protection Unit  
 1981-present   Co-ordinator, Hotel Fire Safety Services Unit;  
                     Office of the Fire Marshal (Ontario)

Name:                **David Hodgson**  
 Present Position:   Director, Building Code Branch,  
                             Ministry of Municipal Affairs and Housing (Ontario)  
 Education:         University of Western Ontario (1969)  
                             Degree: Bachelor of Arts (Economics)  
 Experience:         Deputy clerk for the Township of King  
                             Deputy town clerk for the Town of Oakville  
 1973-1975          Provincial Municipal Affairs Officer,  
                             Ministry of Treasury, Economics and  
                             Intergovernmental Affairs (Ontario) and the  
                             Provincial/Municipal Affairs Secretariat  
 1975-1982          Co-ordinator of intergovernmental policy for the  
                             Ministry of Municipal Affairs and Housing (Ontario)  
 1983-present       Director, Building Code Branch,  
                             Ministry of Municipal Affairs and Housing (Ontario)

Name:                **Byron M. Johnson**  
 Present Position:   President of Springfield Environmental  
                             Research Ltd.  
 Education:         University of Victoria, British Columbia (1971)  
                             Degree: Bachelor of Science (Mathematics)  
                             University of Edinburgh, Scotland (1975)  
                             Degree: Bachelor of Science  
                             (Architecture)  
 Memberships:      National Centre for Barrier Free Environment  
                             (past &               National Task Force on Life Safety and the  
                             present)               Handicapped  
                             Association for Preservation Technology  
                             International Council of Monuments and Sites  
                             (ICOMOS) Canada  
                             Heritage Canada Foundation  
                             American Society for the Testing of Materials  
                             (Committee E.6)  
                             International Standards Organization, Canada  
                             Advisory Committee, Tech. Com. 59, Sub-Com 3  
 Experience:         Structural Engineering Division of the  
 1971-1972          Commonwealth of Australia  
 1975-1979          Research Officer with the Division of Building  
                             Research of the National Research Council  
 1981-present       Associate with Harold D. Kalman, Consultant in  
                             the History and Conservation of Architecture

**Publications:**  
(selected)

1977	User Requirements in Elevators
1977	Pilot Study on Personnel Movement in Office Building
1978	Movement of Crowds at Montreal Olympic Park
1978	Problems with Moving Patients in Buildings
1979	Survey of Activity Patterns in Two Government Office Buildings
1979	Accessible Pedestrian Systems for Those with Physical Disabilities
1980	Sorting-out Fire Exit versus Building Security Needs
1981	Door Use Study
1981	Patterns of Residential Occupancy
1981	Conflicting Requirements of Exit Doors
1983	Evacuation Techniques for Disabled Persons

**Name:** **Jake (J. L.) Pauls**

**Present Position:** Research Officer  
National Research Council of Canada, Ottawa

**Education:** University of British Columbia (1969)  
Undergraduate studies: Honours Physics  
and Electrical Engineering  
Degree: Bachelor of Architecture

**Memberships:** National Building Code of Canada, Part 3  
(past & present) National Fire Code of Canada, Part 2  
National Fire Code of Canada/National Building Code  
of Canada Ad Hoc Joint Working Group  
N.F.P.A. 101 (Life Safety Code) Subcommittee on  
Means of Egress  
National Fire Protection Association, International  
National Capital Region Chapter of Society of  
Fire Prevention Engineers  
Environmental Design Research Association  
National Task Force on Life Safety for the Handicapped  
Ottawa Association for Science in Society

**Experience:**  
1961-1963 B.C. Forest Service, Forest Surveys Division  
1965 H.A. Simons Ltd., Vancouver, Site Engineer  
1968-1982 National Research Council of Canada,  
Division of Building Research, Ottawa  
1982-present National Research Council of Canada  
Division of Electrical Engineering,  
Medical Engineering Research Section

**Publications:**  
(selected)

1975	Evacuation and other fire safety measures in high-rise buildings
1975	Fire safety and related man-environment studies
1976	Canadian studies of crowd movement in buildings and sports grounds
1977	Movement of people in building evacuations

1977 Management and movement of building  
occupants in emergencies  
1980 Effective-width model for evacuation flow  
1980 Research in Human Behavior  
1980 Building Design for Egress  
1980 Building Evacuation: Research Methods and  
case studies (with B. K. Jones)  
1980 Fire Safety in Highrise Buildings (Unit 15 of text for  
the course "Fire Related Human Behavior")

Film

Production:

1978 The Stair Event

Numerous Conferences, Seminars and Workshops given.

Name: **Roy Philippe**

Present Position: Chief, Consulting Services  
Office of the Fire Marshal (Ontario)

Education: University of Ottawa (1961)  
Degree: Bachelor of Applied Science  
(Chemical Engineering)

Memberships: Association of Professional Engineers of Ontario  
(past & present) Part 3 — Standing Committee on Use and Occupancy,  
National Building Code of Canada  
Task Group on High Buildings (Part 3 NBC)  
Parts 2, 6, 7 — Standing Committee on Fire Safety in  
Buildings, National Fire Code of Canada  
CSA Steering Committee on Structural Design  
Task Groups — ULC S536, ULC S537, ULC S538,  
ULC S540M  
Task Force on Qualification Code for Installation  
of Solid Fuel Equipment

Experience: Office of the Fire Marshal (Ontario)  
1966-1973 Plans Approval Engineer  
1973-1975 Special Projects Engineer  
1975-1977 Assistant Chief — Engineering  
1977-present Chief, Consulting Services

Name: **Thomas Gordon Smith**

Present Position: Director of Elevating Devices Branch of the  
Technical Standards Division, Ministry of Consumer  
and Commercial Relations (Ontario)

Education: Heriot-Watt University, Edinburgh, Scotland (1953)  
Degree: Engineering  
McGill University (1958)  
Degree: Business Administration

Experience: Ontario Manager — Brocklesby Transport Ltd.  
1958-1974 Subsidiary of Power Corporation Ltd.  
(heavy transport, building, rigging, etc.)

1974-present	Director, Elevating Devices Branch Ministry of Consumer and Commerical Relations (Ontario) (inspection and licensing of new and existing elevators, escalators, etc.)
Name:	<b>George Toshiaki Tamura</b>
Education:	University of Manitoba (1951) Degree: Bachelor of Science (Mechanical Engineering)
Memberships:	Professional Engineers of Ontario American Society of Heating, Refrigerating and Air Conditioning Engineer (ASHRAE)
Committee Activities:	ASHRAE T.C.5.6. Fire and Smoke Control (1974-81) NFPA Air Conditioning Committee (1972-1977) (National Fire Protection Association)
Research:	1. Air infiltration in Buildings *2. Smoke Movement and Control in High-Rise Buildings 3. Ventilation and Indoor Air Quality * author or co-author of about 30 publications in this area
Experience:	
1951-1959	Orenda Engine Ltd. Design Analysis Engineer
1959-present	National Research Council Senior Research Officer
Publications: (selected)	Author or co-author of over 30 research papers on smoke movement and control in highrise buildings, including:
1967	Pressure Differences caused by Chimney Effect in Three High Buildings (with A. G. Wilson)
1969	Computer Analysis of Smoke Movement in Tall Buildings
1970	Factors in Controlling Smoke in High Rise Buildings (with J. H. McGuire)
1971	Smoke Control in High Rise Buildings (with J. H. McGuire)
1971	Smoke Movement in High Rise Buildings (with J. H. McGuire)
1973	The Pressurized Building Method of Controlling Smoke in High Rise Buildings (with J. H. McGuire)
1975	Simple Analysis of Smoke Flow Problems in High Buildings (with J. H. McGuire)
1979	The National Building Code Smoke Control Measures — An Overview (with J. H. McGuire)
1982	DBR/NRC Studies on Control of Smoke in Highrise Fires



Name: **Edmund Moores Tuff**

Present position: Engineering Manager,  
Otis Elevator Company Ltd.

Education: Technical University of Nova Scotia (1945)  
Degree: Electrical Engineering

Memberships: Association of Professional Engineers of Ontario  
C.S.A. B44 Committee, Elevator Safety Code  
(Chairman)  
ULC Committee on Fire Tests  
ANSI/ASME A17.1 Elevator Safety Code — Liaison

Experience:  
1946-present Otis Elevator Company  
— Works Engineer  
— Field Adjuster  
— Field Engineer  
— Supervision of Field Education  
— Construction Manager

Name: **Dr. Richard Viau**

Present Position: Chief of the Flammability Hazards Division, Product  
Safety Branch,  
Department of Consumer and Corporate Affairs  
(Canada)

Education: University of Ottawa (1969)  
Degree: Bachelor of Science (Chemistry) (Honours)  
University of Ottawa (1973)  
Degree: Ph.D. (Chemistry)

Memberships: Underwriters' Laboratory of Canada;  
(Fire Testing Committee)  
Warnock-Hersey Fire Council  
Canadian General Standards Board  
American Society for Testing & Materials

Experience:  
1973 Research Associate, University of Sherbrooke  
1974 Public Services Commission, Science & Technology  
Program  
1975 Department of Consumer & Corporate Affairs  
(Canada)  
Senior Chemist, Product Safety Laboratory  
1978 Department of Consumer & Corporate Affairs  
(Canada)  
Head of the Chemical Fire Safety Program  
1980-present Product Safety Branch,  
Chief of the Flammability Hazards Division

Name: **William Wretham**

Present Position: Fire Chief for the Borough of Scarborough

Memberships: Ontario Association of Fire Chiefs (President)  
Canadian Association of Fire Chiefs

Metropolitan Toronto Fire Chiefs Committee  
International Association of Fire Chiefs  
The Institute of Fire Engineers  
Canadian Fire Safety Association

Experience:

1950-1954

Firefighter

1954-1957

Captain/Firefighter

1957-1968

District Chief in Charge of Training

1968-1976

Deputy Chief

1976-present

Fire Chief for the Borough of Scarborough

## **Appendix A.5A**

### **WITNESSES CALLED BY THOSE WITH STANDING**

Mr. John Bassel  
Mr. Fred Bever  
Mr. Donald J. Boehmer  
Mr. Bernard Bonser  
Ms. Junie Boudreau  
Mr. Ronald Bowman  
Mr. Russell W. Cooper  
Mr. Christopher Fillingham  
Mr. Geogre Fleming  
Mr. John W. Fothergill  
Mr. Rick Gerundin  
Mr. William Goff  
Mr. Charles C. Greenberg  
Mr. Jack H. Gringorten  
Mr. Christopher C. Hart  
Mr. John Haunts  
Mr. Alan James Hill  
Mr. Douglas Howes  
Mr. William Kennaley  
Mr. Paul Hirst Kevill  
Mr. Alvin McBride  
Mr. John McFadden  
Mr. Dale Martin  
Mr. Walter W. G. Miller  
Mr. David Charles Moulds  
Mr. Robert T. Myles  
Mr. Rashmi Nathwani  
Mr. Michael Nixon  
Mr. Rudy Palladina  
Mr. Norman Pearce  
Mr. Marvin Sadowski  
Mr. Harry Shaw  
Mr. William Sproule  
Mr. George B. Tatham  
Mr. Haim Zah

## Appendix A.5B

### QUALIFICATIONS OF WITNESSES CALLED BY THOSE WITH STANDING

Name: **John Bassel**  
Membership: Metropolitan Toronto Apartment Builders Association (President)  
Experience: 1958-1966 Comptroller of an organization which dealt and managed and sold apartment buildings  
1966-present Arcadia Group Investments Ltd.  
(building and selling rental apartments and condominiums)

Name: **Fred Bever**  
Present Position: Community Legal Worker,  
Parkdale Community Legal Services Inc.  
Education: Carleton University (1973)  
Honours History Program  
York University (1976)  
Degree: Bachelor of Arts (Honours)  
University of Toronto (1977)  
Degree: Bachelor of Education  
York University (1978)  
Certificate: Special Education  
University of Toronto (1980)  
Canadian Business Law  
Memberships: Queen-Dowling Tenants' Association  
(past & present) Parkdale Tenants' Association  
Experience: 1977-1978 Teacher, Browndale (Ontario) Red Wheel School  
1978-1980 Community Legal Worker, Metro Tenants Legal Services  
1981-present Community Legal Worker, Parkdale Community Legal Services

Name: **Donald J. Boehmer**  
Present Position: Vice-President and Manager,  
Rolf Jensen & Associates, Ltd.



Education: Illinois Institute of Technology (1963)  
Degree: Bachelor of Science in Fire Protection  
Safety Engineering

Memberships: Association of Professional Engineers of Ontario  
(past & designated as a Fire Protection Specialist)  
present) Subcommittee on Use and Occupancy of the Associate  
Committee of the National Building Code  
Task Group on Rehabilitation of Buildings  
Ontario Fire Code, Part 9  
National Fire Protection Association  
National Society of Fire Protection Engineers

Experience:  
1963-1970 Engineer with Illinois Inspection and Rating Bureau  
1964-1967 U. S. Navy  
1970-1974 Consulting Engineer in Fire Protection Engineering  
(Rolf Jensen & Associates, Inc.)  
1974-present Vice-President and Manager, Rolf Jensen &  
Associates, Ltd.

Mr. Boehmer served as a Project Manager and Project Engineer on the following research oriented projects (selected):

- Study involving Fire Protection Aspects of the Rehabilitation of Existing Buildings for the National Research Council of Canada
- Subcommittee on Study of the Additional Requirements for Life Safety in Highrise Commercial Buildings for the Building Code Branch of the Ministry of Consumer and Commercial Relations of Ontario

Name: **Bernard Bonser**

Present Position: Fire Chief of City of Toronto

Memberships: Canadian Association of Fire Chiefs (President)  
(past & Metropolitan Toronto Region  
present) Emergency Fire Co-ordinator  
Committee on the National Fire Code  
1971-1974  
Committee on the National Building Code  
1976-1982  
Associate Committee on Fire Research of the  
National Research Council  
Underwriters' Laboratories of Canada Fire Council  
Canadian Standards Association  
Fire Council  
Warnock-Hersey Fire Council

Employment  
History:  
1946-1977 Toronto Fire Department  
1977-present Fire Chief  
City of Toronto

Name: **Junie Boudreau**  
 Present Position: Student, Centennial College  
 Memberships: Regent Park Residents Association  
 Lives in a building administered by the Metropolitan  
 Toronto Housing Authority and owned by Ontario  
 Housing Corporation

Name: **Ronald Bowman**  
 Present Position: Executive Vice-President,  
 Ontario Professional Firefighters Association  
 Education: University of Montreal (1970)  
 Canada Labour College  
 Course Taken: Labour Studies  
 Experience: Hamilton Fire Department  
 1960-1964 Firefighter  
 1964-1973 Rescue Unit  
 1973-present 1st Class Firefighter

Name: **Russell W. Cooper**  
 Present Position: Executive Director,  
 Ontario Hotel & Motel Association

Name: **Christopher T. Fillingham**  
 Present Position: Associate and General Manager Dunlop, Farrow  
 Aitken\*  
 Education: University of Toronto (1968)  
 Degree: Bachelor of Architecture  
 Memberships: (past & present) Ontario Association of Architects  
 Royal Architectural Institute of Canada  
 Canadian Fire Safety Association  
 Standing Committee on Fire Safety in Buildings,  
 for the National Fire Code, Part 2.6.7  
 Ontario Fire Code Advisory Committee  
 Joint Construction Council of UDI/MTABA  
 (Chairman)  
 Task Group preparing requirements for Fire Fighter  
 Access to Buildings for National Building Code  
 (Chairman)  
 Advisory Committee to the Ministry of Municipal  
 Affairs and Housing (Ontario) on the Renovation  
 Requirements  
 High Rise Task Group of the Use and Occupancy  
 Committee of the National Building Code  
 Ontario Fire Code Task Group on Part 9 — Retrofit  
 (Chairman of the Health Care Facilities Committee  
 of the Task Group)  
 National Fire Protection Association  
 Part 3 Use and Occupancy Standing Committee of the  
 National Building Code

- Experience:**  
 1968-1969 Architect with Harry P. Smith, Kingston  
 1969-1971 Architect with Yamazaki & Greig, Toronto  
 1971-1972 Partner of Integrated Management Planning  
 1972-1981 Architect with Dunlop, Farrow, Aitken  
 1981-present Associate and General Manager, Dunlop, Farrow, Aitken
- Publications:**  
 1974-1975 Co-author of reports entitled:  
 — A Study of the Additional Requirements for High Buildings Proposed in Change Series No. 3 to N.B.C. Subsection 3.2.6  
 — A Study of the Requirements contained in the Second Edition of the National Fire Code of Canada, Part 2, Building and Occupant Fire Safety; Draft for Public Comment  
 — A Report on the Implications of the Requirements for Access for the Handicapped contained in Builders' Bulletin No. 243 issued by C.M.H.C., April 17, 1975
- 1981-1982 — A Study of the Additional Requirements for New High Commercial Buildings for the Building Code Branch of the Ministry of Consumer and Commercial Relations, Province of Ontario

\*On July 1, 1983 Mr. Fillingham became a partner of Dunlop, Farrow, Aitken, Cansfield

- Name:** **George Fleming**
- Present Position:** Commissioner of Buildings and Chief Building Official,  
 Borough of Scarborough
- Education:** University of Toronto (1958)  
 Undergraduate studies in Architecture (2 yrs.)  
 Degree: Bachelor of Science (Honours)  
 (Civil Engineer)  
 Centennial College  
 Certificate: Public Administration
- Memberships:** Association of Professional Engineers of the  
 (past & Province of Ontario  
 present; Canadian Fire Safety Association (Second  
 selected) Vice President on Founding Board of Directors)  
 National Fire Protection Association  
 Building Officials and Code Administrators  
 International Inc.  
 International Conference of Building Officials  
 Southern Building Code Congress International Inc.  
 National Academy of Code Administration  
 Canadian Building Officials Association  
 (President 1974-1975 and 1975-1976)  
 Ontario Building Officials Association  
 (President 1978-1979)

	Fire Council, Underwriters' Laboratories of Canada Committee on Uniform Building Standards for Ontario (1978-1979) Ad-Hoc Committee on Part 1, Administration, Associate Committee on the National Building Code of Canada (1970-1974) Task Group, Safety in High Rise Buildings Associate Committee on the National Building Code of Canada (1968-1974) Standing Committee on Use and Occupancy, Associate Committee on the National Building Code of Canada (1970-1974) Canadian Building Officials Advisory Council of the Canadian Standards Association (Chairman 1972-1976) OBOA Master Education Course/Building Official Certification Development Board (Chairman & Manager/Co-ordinator (1979 to present) Member of Municipal Inspectors Training & Education Council
Experience:	
1958-1964	Buildings Engineer, City of Toronto
1964-present	Commissioner of Buildings and Chief Building Official, Borough of Scarborough
Publications:	Author of 'Ontario Building Officials Association Model Sign Code' Author of 'Canadian Building Codes — Their Administration and Enforcement — How Well is the Public Served?'
Name:	<b>John W. Fothergill, Jr.</b>
Present Position:	Integrated Systems Incorporated, Brunswick, Maryland, Principal
Education:	California State University (1952) Degree: Bachelor of Mathematics California State University (1956-1959) Courses taken in: Master of Science Program Utah State University (1959-1964) Courses taken in: Graduate Program in Engineering (Fluid Mechanics) State University of New York (1964-1965) Courses taken in: Graduate Program in Mathematics
Memberships:	Smoke Control Association National Fire Protection Association Naval Institute ASHRAE Technical Committee 5.6 on Fire and Smoke Control
Experience: (selected)	Designed smoke control and fire protection systems for a Ship Environmental Simulation Facility



Principal investigator on a contract to the Centre for Fire Research at the National Bureau of Standards for Developing Design Technology for Smoke Control and Removal Systems  
 Designer of smoke control systems for a number of large commercial buildings  
 Principal Investigator on a Study to the National Bureau of Standards for Fire Research to Improve Predictive Techniques for Estimating Smoke Movement and Toxic Gas Concentrations in High-rise Buildings and Connected Building Complexes  
 Principal Investigator on project to develop first design manual to design smoke control systems for large buildings  
 Project Engineer on a number of fire simulation/ testing and evaluation projects

**Publications:**

1978	Computer Aided Design Technology for Smoke Control & Removal System
1978	Smoke Control Systems Design Tools
1979	Smoke Movement Studies at the NIH Clinical Center
1980	The Atrium as a Fresh Air Channel — A Different Concept in Smoke Control
1980	Testing of the IDS Tower Smoke Control System

<b>Name:</b>	<b>Rick Gerundin</b>
<b>Present Position:</b>	Acting Corporal Field Co-ordination Branch Helicopter Section Ontario Provincial Police

<b>Experience:</b>	
1973-1974	Commercial helicopter pilot Skyrotors, Arnprior, Ontario
1975-1979	Constable Ontario Provincial Police (General Police Work)
1979-present	Ontario Provincial Police (Helicopter Section)

<b>Name:</b>	<b>William Goff</b>
<b>Present Position:</b>	President, P.T.E. Industries
<b>Education:</b>	Engineering (Mechanical)

<b>Name:.</b>	<b>Charles Greenberg</b>
<b>Present Position:</b>	Director of Practice, Ontario Association of Architects (O.A.A.)
<b>Education:</b>	University of Pennsylvania (1958) Degree: Bachelor of Architecture

- Membership: Ontario Association of Architects
- Experience:  
1961-1981 Private practice of Architecture  
1981-present Director of Practice,  
Ontario Association of Architects
- Name: **Jack H. Gringorten**
- Present Position: Senior Vice-President, Property  
Administration, Olympia & York
- Education: University of Toronto  
Degree: Bachelor of Arts  
Columbia University  
Degree: Master of Arts
- Memberships:  
(past &  
present) Canadian Institute of Management (Life Member)  
Canadian Industrial Management Association  
Associate Committee of the National Fire Code  
Past Chairman of the Education Committee  
of Toronto Building Owners & Managers  
Association (BOMA)
- Experience: Personnel Manager, General Manager and  
Owner of a manufacturing firm  
1965-present Property Administrator, Olympia & York  
Senior Vice-President, Olympia & York since 1980  
Involved in development of a four-year  
Educational Program leading to the Degree  
of Certified Industrial Manager (C.I.M.)  
Lecturer at George Brown College (Toronto);  
and prepared its course outline for  
Property Management
- Publication:  
(to be released) Working Manual for Property Managers
- Name: **Christopher Carleton Hart**
- Present Position: Director of Legal Services,  
Association of Professional Engineers of Ontario
- Membership: Association of Professional Engineers of Ontario
- Name: **John Haunts**
- Present Position: Senior Assistant Manager  
Royal York Hotel  
Toronto, Ontario
- Membership: Ontario Hotel & Motel Association,  
Fire Safety Committee

**Name:** **Alan James Hill**

**Present Position:** Fire Protection Consultant,  
Marsh & McLennan Ltd.

**Education:** Sir George Williams University, Montreal (1963)  
Degree: Bachelor of Science  
Industrial Accident Prevention Association (1973)  
Course Taken: Accident Prevention Fundamental  
American Society of Heating, Refrigeration and  
Air Conditioning Engineers Inc. (1976)  
Course Taken: New Techniques for Fire &  
Life Safety in Buildings  
International Loss Control Institute (1978)  
Course Taken: Professional Consulting in System  
and Loss Control Management  
University of Maryland (1981)  
Course Taken: Systems Application for Fire  
Protection Engineers  
University of Maryland (1982)  
Course Taken: Industrial Fire Risk Analysis

**Memberships:** Society of Fire Protection Engineers  
— Full Member (1976)  
— President, Southern Ontario Chapter (1980-82)  
Montreal West — Volunteer Fire Department

**Experience:**  
1965-1969 Marsh & McLennan Ltd. (Montreal)  
1969-present Marsh & McLennan Ltd. (Toronto)  
— Consultant for Molson Companies Ltd.  
Simpson Sears  
Atlantic Packaging  
Canada Packers  
Ontario Hydro

**Papers/  
Presentations:**

1969 The Specification Writers Association of Canada,  
Montreal, "Togetherness — The Design Team Concept"

1973 ORIMS (Ontario Risk & Insurance Management  
Society) Toronto, "Computer Insurance & Loss  
Prevention"

1975 The Mariners Club, Toronto, "Total Loss  
Control for Buildings Under Construction"

1979 The Engineering Institute of Canada —  
Calgary Branch "New Sprinklers & High Rise Safety"

1981 Canadian Association of Risk Managers Society,  
Conference, Toronto "High Rise Fire Safety"

**Name:** **Douglas Howes**

**Present Position:** Councillor, Mono Township Council

**Experience:**  
1951-1957 Automatic Sprinkler Company of Canada  
(now Wormald International)  
1957-1965 Ontario District Manager of Wormald

1965-1979	Bennett and Wright
1968-1976	District Manager of Bennett and Wright
1976-retirement	Vice-President of Bennett and Wright

Name:	<b>William Kennaley</b>
Present Position:	Director, Information Canadian Automatic Sprinkler Association
Education:	Ryerson Polytechnical Institute (1964) Certificate: Engineering Technology Wilfrid Laurier University (1972) Degree: Bachelor of Arts
Memberships:	Ontario Association of Certified Engineering Technicians and Technologists Canadian Institute of Planners
Experience:	
1964-1969	Proctor & Redfern Ltd. Consulting Engineers
1969-1972	W.L.U.
1972-1975	Assistant to the Vice-President — Land Development Consolidated Building Corporation
1975-1977	Director of Planning, HUDAC
1977-1980	Senior Planner, Freure Homes Ltd.
1980-present	Director Information, Canadian Automatic Sprinkler Association

Name:	<b>Paul Hirst Kevill</b>
Present Position:	Protection Mutual Insurance Company, Senior District Underwriter
Education:	University of British Columbia Degree: Bachelor of Applied Science (Electrical Engineering)
Memberships:	Society of Fire Protection Engineers — President, Southern Ontario Chapter (present) — President, Montreal — Ottawa Chapter (1971-1973) Association of Professional Engineers of Ontario Insurance Institute of Canada (Associate Member)
Experience:	
1956-1973	Factory Mutual Engineering Field Engineer (1956-1966) Montreal District Manager (1966-1975) Toronto Engineering Manager (1975-1978)
1978-present	Protection Mutual Insurance Company Highly Protected Risk Underwriter

Name:	<b>Alvin D. McBride</b>
Present Position:	Business Manager of U.A. Local 853, Sprinkler Fitters of Ontario
Membership:	Provincial Advisory Committee re: Qualifications for Sprinkler Fitters



Experience:  
 1960-1971 Sprinkler fitter, Adam Clark Company  
 1971-1983 Business Manager of U.A. Local 853,  
 Sprinkler Fitters of Ontario

Name: **Jack McFadden**

Present Position: Chief Fire Prevention Officer  
 City of Toronto Fire Department

Education: Graduate of Toronto Fire Academy Course for  
 Fire Prevention Inspectors (1977)  
 Graduate of Canadian Fire Safety Association  
 Organization in Fire Technology (1978)  
 Graduate of the Insurers' Advisory  
 Organization of Canada; School of Loss  
 Control and Technology (1979)  
 Course Taken: Sprinkler Systems & Water Supplies

Employment  
 History:

1956 Firefighter  
 Toronto Fire Department

1970 Fire Prevention Division,  
 Toronto Fire Department

1981 Captain  
 Fire Prevention Division

1981 Chief Fire Prevention Officer  
 City of Toronto Fire Department

Name: **Dale Martin**

Present Position: Chairperson, Federation of Metropolitan  
 Toronto Tenants' Associations

Experience: Consultant, economic consultant and social  
 policy analyst.  
 Research director of Ontario Federation of  
 Students and Opportunities for Youth,  
 Department of the Secretary of State (Canada),

Name: **Walter W. G. Miller**

Present Position: Vice-President,  
 Wormald Fire Systems

Education: McGill University, Montreal (1960)  
 Degree: Bachelor of Engineering  
 Western University, London, Ontario (1970)  
 Diploma: Business Administration  
 Harvard University, Cambridge, Mass. (1981)  
 Diploma: Management  
 Harvard University, Chicago  
 Course taken: CAD/CAM  
 U. of Maryland, Washington, D.C.  
 Course taken: System Methodologies

- Memberships:** Society of Fire Protection Engineers  
National Fire Protection Association  
Canadian Industrial Computing Association  
Canadian Automatic Sprinkler Association
- Experience:**
- 1962-1963 Automatic Sprinkler Corporation of America,  
Research and Development
- 1964-1965 Automatic Sprinkler Limited, Contract Manager
- 1966-1970 Automatic Sprinkler Limited, District Manager
- 1971-1979 Automatic Sprinkler Limited, Vice-President
- 1979-1981 Automatic Sprinklers Limited/Wormald Fire  
Systems Inc., Vice-President
- 1981-1982 Wormald Americas Inc., Vice-President
- 1982-present Wormald Fire Systems, Vice-President
- Publications:**
- 1981 Recommendation for Use of Computer Graphics  
Technology in the Design Engineering and  
Estimating functions
- 1981 Computer Systems Recommendations for the  
support of Engineering Processing  
Requirements in Wormald Americas
- Name:** **David Charles Moulds**
- Present Position:** Marketing Manager,  
Occupational Health Products Group  
Safety Supply Canada
- Name:** **Robert T. Myles**
- Present Position:** Senior Vice-President,  
Hanscomb Consultants Inc., Canada
- Education:** Dundee College of Higher Technology,  
Dundee, Scotland — Graduate  
Degree: Higher National Certificate  
(Building Technology)  
London City and Guilds  
Degree: Quantity Surveying
- Memberships:** Canadian Institute of Quantity Surveyors (Member)  
Ontario Institute of Quantity Surveyors (Member)  
Royal Institution of Chartered Surveyors (Fellow)  
Chartered Institute of Building (Fellow)  
American Institute of Constructors  
(Professional Constructor)
- Experience:** Senior position with Chartered Quantity  
Surveyors, Scotland  
Senior estimator for major Canadian general  
contractor
- 1972-1979 Hanscomb Consultants Inc., Canada  
Senior Consultant  
Part-time lecturer in building economics,  
Ryerson Polytechnical Institute  
(Passed appointment)

1979-Present                      Principal — Hanscomb Consultants Inc.

Publications:                      Manual for Cost Planning and Cost Control of  
Building Projects

Name:                                **Rashmi N. Nathwani**

Present Position:                  Director of Plan Examination,  
City of Toronto

Education:                          Shivaji University, Sangli, India (1964)  
Degree: Bachelor of Engineering (Civil)  
University of Waterloo (1969)  
Degree: Master of Applied Science  
McMaster University (1979)  
Degree: Master of Business  
Administration

Memberships:                      Association of Professional Engineers  
(past & present)                      (Ontario)  
Municipal Engineers Association  
Ontario Building Officials Association Incorporated  
Canadian Building Officials Association  
Building Officials Conference of America  
Engineering Institute of Canada  
Canadian Society of Civil Engineering  
Ontario Plumbing Inspectors Association  
Society of Fire Protection Engineers  
Member of CSA and ULC Code Committees

Experience:

1964-1967	Construction Engineer, Bombay, India
1967	Junior Engineer, Richmond Hill, Ontario
1967-1968	Civil Engineer, Hamilton, Ontario
1970-1972	Technical Services Engineer, Hamilton, Ontario
1972-1979	Deputy Building Commissioner, Hamilton, Ontario
1979-present	Director of Plan Examination, Toronto, Ontario

Name:                                **Michael Nixon**

Present Position:                  Commissioner of Building & Inspections for  
City of Toronto

Education:                          Queen's University, Belfast, Ireland (1964)  
Degree: Bachelor of Science (Mechanical  
Engineering)

Memberships:                      Canadian Association of Municipal Administrators  
(past & present)                      Canadian Building Officials Association  
Ontario Building Official Association of the  
Fire Council  
Underwriters' Laboratories of Canada Fire Council  
National Fire Protection Association  
Board of Trade of Metropolitan Toronto  
The Canadian Club  
American Society of Testing Materials  
Building Officials and Administrator International  
Canadian Fire Safety Association

Employment History:  
 1964-1970 Consulting Engineer  
 Dilworth Seager Meagre & Associates,  
 City of Toronto  
 1970-1973 Project Engineer  
 Underwriters Laboratories of Canada  
 1973-1974 Chief Plan Examiner of the Building Department,  
 City of Hamilton  
 1974-1978 Director of Plan Examination & Deputy Chief  
 Building Official of the City of Toronto

Name: **Rudy Palladina**  
 Present Position: Regional Marketing Manager,  
 Bell Helicopter Textron

Name: **Norman Pearce**  
 Present Position: Vice-President and Chief Engineer of the  
 Underwriters' Laboratories of Canada  
 Education: Southhampton University-College — England (1952)  
 Degree: Mechanical Engineering  
 Memberships: (past & present) Institution of Mechanical Engineers  
 Society of Fire Protection Engineers  
 Association of Professional Engineers of Ontario  
 Standing Committee on Fire Performance  
 Rating of the Associate Committee of the  
 N.B.C.C.  
 Associate Committee on Research for the Fire Services

International Memberships: (past & present) A.S.T.M. committee E-5 on Fire Tests of  
 Materials and Construction (past Chairman)  
 Canadian Advisory Committee on I.S.O. (Chairman)  
 Technical Committee 92 on Fire Tests on Building  
 Materials and Structures  
 Experience: Vickers Armstrong Super Marine, England  
 Avro Aircraft Limited Canada,  
 Structural & Mechanical Test Department  
 1960-present Underwriters' Laboratories of Canada  
 Vice-President & Chief Engineer

Name: **Marvin Sakowski**  
 Present Position: Senior Vice-President  
 Maysfield Property Management Inc.  
 Membership: Chairman of the Management Committee of the  
 Apartment Group of the Urban Development Institute  
 Experience: Senior Property Manager of the Management  
 Division of Cadillac-Fairview



**Name:** **Harry Shaw**

**Present Position:** Fire Protection Consultant  
Harry Shaw and Associates, Inc.  
Rockville, Maryland

**Experience:**

1946-1954	National Bureau of Standards, Diamond Ordinance Fuel Laboratories
1954-1964	Program Management, Emerson Radio & Phon. Corp.
1964-1970	Vice-President, Operations, L.T.V. Inc.
1970-1973	President, Marson Electronic Corp.
1973-1975	Consultant to Office of Secretary of Defence
1975-1982	Assistant Administrator, U.S. Fire Administration
1982-present	Fire Protection Consultant

**Name:** **William Sproule**

**Present Position:** Assistant Deputy Fire Chief, City of Toronto

**Education:** Graduate of Ontario Fire College  
Degree in Fire Technology from Seneca College

**Memberships:** Advisory Committee on The Ontario Fire Code,  
(past and and Part 8 subcommittee on The Ontario Fire Code  
present) (chairman)  
U.L.C. Committee on Fire Alarm Systems  
Canadian Fire Safety Association (Director)  
Society of Fire Protection Engineers (Director)

**Experience:** Director of Fire Prevention, City of Toronto

**Name:** **George V. Tatham**

**Present Position:** Senior Vice-President, Canadian Division,  
Oxford Development Group Ltd.

**Education:** University of British Columbia,  
Specialized course in electronics

**Memberships:** B.O.M.A.  
(past & American Standard Method of Measurement  
present) Committee  
Special Task Force on Smoke Control in High  
Rise Buildings  
Use & Occupancy Committee of the National  
Building Code  
Special Task Force on Dead End Corridors  
B.O.M.A. Nomination Committee  
B.O.M.I. Board Member

**Experience:**

1943-1954	Taught radar to Canadian Bomber Group in England
1954-1968	Yolles & Rotenberg Ltd.
1968-1976	Vice-President Commercial Division, Y & R Properties Ltd.
1976-1978	President, Y & R Properties Ltd.
1978-present	Senior Vice-President, Canadian Division, Oxford Development Group Ltd.

**Name:** Haim Zah  
**Present Position:** Vice-President, P.T.E. Industries

## **Appendix A.6A**

### **PERSONS MAKING ORAL PRESENTATIONS**

Mr. Donal M. Baird  
Mr. Ronald Douglas Brown  
Mr. George A. Coleman  
Mr. Christopher Cornish  
Mr. Patrick J. DeFazio  
Ms. Karen Eluck  
Mr. J. A. Euclid Herie  
Mr. Earl Hunter  
Mr. Gerhard J. Landmesser  
Mr. Lyle L. MacLennan  
Mr. Paul Meleta  
Mr. Edward Munro  
Mr. Mark Patamia  
Mr. Larry D. Simonato  
Mr. Gerhard W. Stephan  
Mrs. Elsie Stiles  
Mrs. Joyce Thompson  
Mr. Mark Waxer  
Mr. Ronald W. Wheeler

## Appendix A.6B

### QUALIFICATIONS OF PERSONS MAKING ORAL PRESENTATIONS

Name:	<b>Donal M. Baird</b>
Present Position:	Director, Fire Underwriters Survey, Insurance Bureau of Canada
Education:	University of New Brunswick Degree: Bachelor of Science
Experience:	
5 years	Volunteer firefighter, City of Fredericton, New Brunswick
16 years	Technical associations of the fire and casualty insurance field in fire protection, inspection and engineering
2 years	National Research Council, Study on Fire Prevention and Control Systems in Canada
19 years	Director, Fire Underwriters Survey, Insurance Bureau of Canada
22 years	Building and Fire Prevention Code Writing Committees of NRC
Memberships: (past & current)	Society of Fire Prevention Engineers (Charter Member) Canadian Association of Fire Chiefs International Association of Fire Chiefs National Fire Protection Association Canadian Fire Safety Association Canadian Building Officials Association
Publication:	
1980	Study on Fire Prevention and Control Systems in Canada (with R.W.A. Switzer)
Name:	<b>Ronald Douglas Brown</b> Handicapped highrise resident
Experience:	Lived in various highrise buildings for approximately ten (10) years.
Name:	<b>George A. Coleman</b>
Present Position:	General Manager, Metropolitan Toronto Housing Company Limited, Homes for the Aged Division
Experience:	
7 years	General Manager, Metropolitan Homes for the Aged



Name: **Christopher Cornish**

Present Position: Project Manager, Real Estate Development

Education: Dalhousie University, Halifax (1969)  
Degree: Bachelor of Arts (Economics)

Experience:

1969-1972 Development Department of T. Eaton Company

1972-1975 Project Manager for Oxford Development Group Limited

1975-1976 Director, Special Projects Division of Y & R Properties Limited, Toronto

1976-1981 President of Roxborough Development Corporation

1981-present Vice-President of Dover Park Development Corporation Limited

Name: **Patrick J. DeFazio**

Present Position: Captain, Ottawa Fire Department

Membership:

1973-1982 Ontario Professional Firefighters Association (President)

Experience:

1957-present Firefighter, Ottawa Fire Department

Name: **Karen Eluck**

Present Position: Vice-President,  
Third Degree Prevention Ltd.  
markets the Water Jel Fire Blanket

Name: **J. A. Euclid Herie**

Present Position: Executive Director,  
Canadian National Institute for the Blind

Name: **Earl Hunter**

Present Position: Superintendent,  
Manufacturers Life Building (Toronto)

Membership: President, Toronto Building Superintendents Association

Experience: Instructor  
Building Environmental Systems Course  
(Seneca College, Toronto)

Name: **Gerhard J. Landmesser**

Present Position: Regional Manager,  
Pyrotronics Canada Limited

Memberships:  
(past & present) Canadian Fire Safety Association (Past President)  
Canadian Fire Alarm Association  
Ontario Building Officials Association  
National Fire Protection Association

Ontario Fire Chiefs Association  
Society of Fire Protection Engineers  
(Board of Directors)

Experience:  
1966-1972 Pyrene Fire Equipment Company  
1972-present Pyrotronics Canada Limited

Name: **Lyle L. MacLennan**  
Present Position Chief, Ottawa Fire Department  
Memberships: Ontario Association of Fire Chiefs  
Canadian Association of Fire Chiefs  
International Association of Firefighters

Experience:  
1952-1965 Firefighter  
1965-1969 Lieutenant  
1969-1973 Captain  
1973-1978 District Chief  
1978-1980 Platoon Chief  
1980-1982 Executive Officer  
1982-present Chief, Ottawa Fire Department

Name: **Paul Meleta**  
Present Position: Quality Control Inspector  
Borough of Scarborough  
Experience: V. K. Mason Construction  
Bregman and Hammann Architects  
1968-present Borough of Scarborough

Name: **Edward Munro, B. Arch., M.R.A.I.C., M.O.A.A.**  
Present Position: Regional Architect,  
Canadian Portland Cement Association

Name: **Mark Patamia**  
Present Position: Executive Director,  
Ontario Concrete Block Association, and  
National Concrete Producers Association  
Education: Glasgow University, Scotland (1953)  
Degree: Master of Arts (French & Italian)  
Glasgow University, Scotland (1956)  
Degree: Bachelor of Laws  
The Canadian Credit Institute (1966)  
Degree: M.C.I. (Hon.)  
Memberships: Canadian Standards Association: Technical  
(selected) Committee A165: Concrete Housing Units  
(Chairman)  
CSA Steering Committee — Member  
Technical Task Group; Residential Renovation  
Guidelines, Ministry of Housing — Member

**Name:** **Larry Simonato**

**Present Position:** Director of Enforcement Services,  
Corporation of the City of Cambridge

**Education:** Ryerson Polytechnical Institute (1969)  
Architectural Association of Technologists  
Diploma: Certified Engineering Technologist

**Experience:**

1974-1976 Corporation of the City of Cambridge,  
Plans Examination

1976-present Corporation of the City of Cambridge,  
Director of Enforcement Services

**Name:** **Gerry Stephan**

**Present Position:** President,  
Help Smoke Protection Mask Inc.

**Name:** **Elsie Stiles**

Highrise resident

**Membership:** President, Board of the Condominium Corporation

**Experience:**

14 months Manager of highrise condominium

9 months Secretary to Manager of highrise commercial  
property  
Prepared a fire safety guide for use in a highrise  
building in which she resides.

**Name:** **Joyce Thompson**

**Present Position:** Orientation and mobility instructor, and  
Case Manager in Deaf/Blind Services  
Canadian National Institute for the Blind

**Name:** **Mark Waxer**

**Present Position:** Vice-President,  
Third Degree Prevention Ltd.

**Name:** **Ronald W. Wheeler**

**Present Position:** Involved in promoting fire safety  
highrise buildings

**Experience:**

15 years Suffolk Fire Brigade  
West Sussex Fire Brigade  
— officer

## Appendix A.7

### LIST OF EXHIBITS

Exhibit Number	Description of Exhibit
1.	Order in Council (Dated June 30, 1982) Pursuant to the provisions of the <i>Public Inquiries Act</i> , R.S.O. 1980, chapter 411, appointing His Honour John B. Webber, Judge of the County Court of the County of Dufferin, a Commissioner to inquire into the subject of fire safety in highrise buildings in Ontario.
2.	Notice of Public Hearings.
3.	Organizational chart of the Office of the Fire Marshal of Ontario.
4.	Distribution of buildings, Ontario, seven stories and greater.
4A.	Worksheet showing calculations in support of Exhibit 4, entitled "Total Number of High Rise Buildings in the Province of Ontario."
5.	Summary of fire statistics, Ontario, apartments and residential, all heights (1976-1981).
6.	Summary of fire statistics, Ontario, pertaining to hotels.
7.	Summary of fire statistics, Ontario, for apartments seven stories and greater (1976-1981).
8.	Summary of fire statistics, Ontario, for hotels seven stories and greater (1976-1981).
9.	Summary of fire statistics, Ontario, for business and mercantile buildings thirteen stories and greater (1976-1981).
10.	Summary of fire death statistics, Ontario, for hotels and residential buildings greater than seven stories (1976-1981).
11.	Summary of fire statistics, Ontario, dealing with percentage of total incidents where smoking material was the source of ignition for apartments and hotels seven stories and greater.
12.	Summary of fire statistics, Ontario, for apartments five stories and greater, and apartments and dwellings four stories and under.
13.	Fire death and injury rates, 1981, for Ontario.
14.	Chart of residential buildings fire death and injury rate average for 1976 to 1981, for Ontario.



Exhibit Number	Description of Exhibit
15.	Summary of the deaths and injuries in rooming, boarding, lodging houses in Ontario for 1976 to 1981.
16.	Published report of Fire Marshal's Office re fire losses in Ontario for 1976.
17.	Published report of Fire Marshal's Office re fire losses in Ontario for 1977.
18.	Published report of Fire Marshal's Office re fire losses in Ontario for 1978.
19.	Published report of Fire Marshal's Office re fire losses in Ontario for 1979 and 1980, combined.
20.	Fire Marshal's Office printout re fire losses in Ontario for 1981, unpublished.
20A.	Published report of Fire Marshal's Office re fire losses in Ontario for 1981.
21.	Table 3.1.2.A of the Ontario Building Code.
22.	Part of Report of Governor of Nevada on fire safety codes.
23.	Curriculum vitae of Roy Philippe.
24.	Governor of Nevada's Commission on Fire Safety Codes, final report.
25.	1979 Draft Ontario Fire Code, subsection 1.1.4, dealing with licensing of tradesmen, as circulated for public comment.
26.	1979 draft Ontario Fire Code, part 9 (Retrofit), as circulated for public comment.
27.	Copy of letter dated November, 1981 from R. Roy McMurtry, then Solicitor-General, which accompanied the Fire Code.
28.	National Fire Code of Canada, 1980, office consolidation.
29.	Canadian Standards Association standard number C282-1977 concerning emergency electrical power supply for buildings.
30.	<i>Municipal Act</i> , R.S.O. 1980, c. 302, section 210, paragraphs 34-43.
31.	Occupied private dwellings in Ontario, being document E564 of the 1981 Census of Canada.
32.	Photostat of the National Building Code 1980, Appendix A (Explanatory Material) re: Subsection 3.2.6: High Buildings.
33.	The Ontario Fire College, 1982, course calendar.
34.	Article entitled "A Systematic Approach to Fire Safety in Rehabilitation of Buildings" by J. K. Richardson. (see Bibliography)

<b>Exhibit Number</b>	<b>Description of Exhibit</b>
35.	Results of fire prevention by-law questionnaire dated August 22, 1979 distributed by Office of the Fire Marshal; (questionnaire dated December 28, 1978, attached).
36.	Two-page document entitled, "Fire Casualties Report Form" (pre-1981), Office of the Fire Marshal.
37.	Revised Casualty report instituted in 1981, Office of the Fire Marshal.
38.	Pamphlet re: program on fire safety offered by Seneca College in conjunction with the Canadian Fire Safety Association.
39A.	Typical bedroom-floor plan of the Inn on the Park.
39B.	Floor plan of Tower Room, Inn on the Park.
39C.	Floor plan for 2nd floor before addition of the Tower, Inn on the Park.
39D.	Floor plan for 1st floor of the Tower, Inn on the Park.
39E.	North elevation of Inn on the Park Tower.
39F.	Plot plan of Inn on the Park.
40.	Copy of verdict of Coroner's Jury dated May 7, 1981 re fire at the Inn on the Park. Inquest into the death of six persons.
41.	Report of the fire at the Inn on the Park by Ontario Fire Marshal's Office prior to the inquest, containing a synopsis of the fire and evidence given by various members of the investigative team.
42.	Acetate drawing by William Wretham re fire department access concerns.
43.	Acetate drawing by William Wretham of actual access problem for a fire department.
44.	Pamphlet entitled, "If You Live in a Highrise" produced by the Ontario Municipal Fire Prevention Officers' Association; and Ontario Safety League.
45.	Borough of Scarborough Council resolution dated June 21, 1976 re: administration of fire safety matters under the Ontario Building Code.
46.	Prefire plan for the Angebilt Hotel in Orange County, California.
47.	Brochure on Insurance Advisory Organization and Underwriters' Laboratories of Canada, Course 302 re sprinklers and water supplies for industry, October 25-29, 1982.
48.	Scarborough Fire Department Letter addressed to building owners and property managers, occupants and/or other persons controlling property re: Ontario Fire Code.

Exhibit Number	Description of Exhibit
49.	North York fire safety information.
50.	National Building Code of Canada, 1980.
51.	Supplement to the National Building Code of Canada, 1980; and Index to smoke control measures in the National Building Code, prepared by Commission staff.
52.	1979 fire safety sign for hotel bedrooms. (Office of the Fire Marshal)
53.	Fire safety sign for buildings with single-stage alarm systems. (Office of the Fire Marshal)
54.	Fire safety sign for buildings with multi-stage alarm systems. (Office of the Fire Marshal)
55.	Current fire safety sign for government buildings. (Ministry of Government Services)
56.	Proposed amendments to <i>Hotel Fire Safety Act</i> and Regulations.
56A.	Letter from Mr. Hess to Mr. Ritchie, Legal Director of the Ministry of the Solicitor General, and attached second draft of amendments to <i>Hotel Fire Safety Act</i> and Regulations.
57A.	CAN4-S536-82 (formerly ULC-S536-1979) Standard for the testing, inspection and maintenance of fire alarm systems.
57B.	CAN4-S524-M82 (formerly ULC S524-M1980) Standard for the installation of fire alarm systems.
57C.	CAN4-S537-82 (formerly ULC-S537-1980) Standard for the verification of fire alarm system installations.
58.	Concordance between Ontario Fire Code and proposed <i>Hotel Fire Safety Act</i> and regulations.
59.	Acetate sketch by John Hess showing dead-end areas in pre-1971 hotels.
60.	Inn on the Park fire plan # 1.
61.	Inn on the Park fire plan # 2.
62.	Hotel Fire Safety Unit of Office of the Fire Marshal, Emergency planning document dated August 19, 1982.
63.	May 1981 copy of the Fire Journal containing an article by Jon C. Jones entitled "A Brief Look at the Hotel Fire Record." (see bibliography)
64.	Proceedings of the Standing Committee on Administration of Justice of the Ontario Legislature dated June 24, 1981 re: consideration of Bill 59, an <i>Act to amend the Fire Marshal's Act</i> .
65.	Ontario Liquor Licence Board document entitled "Guidelines for Evacuation Plan," dated May 4, 1977.

Exhibit Number	Description of Exhibit
66.	Ontario Liquor Licence Board inspection reports of the Inn on the Park, from June 1, 1976 to January 22, 1981.
67.	Inspection report notice of violation form used by the Office of the Fire Marshal in its hotel inspection programme.
68.	Draft pamphlet for hotel guests.
69.	Draft proof of revised Exhibit 55.
70.	Letter from Ontario Liquor Licence Board to Commissioner and Chief Building Official of the City of Toronto dated March 15, 1982 concerning section 19 (1) of regulation 581/80.
71.	National Fire Prevention Association Standard 13, 1980, sprinkler systems installation.
72.	P.T.E. Formula 111 technical data.
73.	Portion of California Fire Code re: Fire Retardants.
74.	Letter from Fire Marshal of California to P.T.E. Industries Inc. dated July 16, 1982.
75.	Covering letter of October 10, 1982 addressed to P.T.E. Industries Inc. with the Israeli Standard Code S.I. 755 and S.I. 921 attached.
76.	National Research Council of Canada publication entitled "Division of Building Research." (see bibliography)
77.	"DBR's fire research station", An article in National Research Council of Canada publication entitled "Building Research News". (see bibliography)
78.	National Research Council of Canada, Division of Building Research, Research Programme 1982/83. (see bibliography)
79.	Associate Committee, National Building Code, Policies and standards, 1981.
80.	Associate Committee, National Fire Code, Policies and standards, 1981.
81.	Photostat of Organization chart of National Research Council of Canada.
82.	Photostat of Organization of the Division of Building Research, National Research Council of Canada, dated March, 1982.
83.	Unpublished note by Dr. N. B. Hutcheon re smoke control research, dated 1981.
84.	Study on Fire Prevention and Control Systems in Canada, by R.W.A. Switzer and D. M. Baird. National Research Council publication dated September, 1980. (see bibliography)
85.	Curriculum vitae of George T. Tamura.



Exhibit Number	Description of Exhibit
86.	An article written by J. H. McGuire and G. T. Tamura entitled, "The National Building Code Smoke Control Measures: an Overview". (see bibliography)
86A.	Envelope of seven photos being reproductions of Mr. Tamura's overhead charts re stack effect.
87.	Smoke concentration chart.
88.	Air Flow Chart.
89.	"Computer Analysis of Smoke Movement in Tall Buildings" by George T. Tamura. (see bibliography)
90.	Partial analysis of 1979 and 1980 fire loss statistics prepared by Chief J. Gibson, Fire Chief, City of North York. (Re: Deaths and Injuries)
91.	Building audit procedure, Office of the Fire Marshal, Hotel Inspection Unit.
92.	Building audit procedure in relation to the Travelodge Motel in North York. (example)
93.	Map of Ontario showing inspection districts for Fire Marshal's Office Hotel Inspection Unit.
94.	Acts which predated the 1971 <i>Hotel Fire Safety Act</i> , namely <i>Hotel Fire Accident Prevention Act</i> , R.S.O. 1937, c. 320; <i>Hotel Fire Safety Act</i> R.S.O. 1960, c. 179; <i>Hotel Fire Safety Act</i> , R.S.O. 1970, c. 211; Revised Regulations of Ontario 488/1970; Ontario statute citator re: <i>Hotel Fire Safety Act</i> .
95.	Letter from Ian Barbour, General Manager of the Inn on the Park to Mr. John Hess, Fire Protection Services, Office of the Fire Marshal dated October 31, 1980, concerning the testing programme of fire alarm system.
96.	Table showing differences between <i>Hotel Fire Safety Act</i> and Regulations, and Ontario Building Code, prepared by Rashmi Nathwani.
97.	Hotel inspection program dated December 16, 1981. Reflects the districts and the staffing for the districts, the number of regulated establishments, the counties which are within each of the geographical districts and the major centres in which the Office has staff located.
98.	Concordance of proposed amendments to <i>Hotel Fire Safety Act</i> and Regulations and Ontario Building Code and Ontario Fire Code, prepared by Commission staff.
99.	Section 3.2.6 of the 1970 National Building Code. (additional requirements for high buildings)
100.	Curriculum vitae of Peter Gathercole.
101.	Report of the Ministry of the Solicitor General, Office of the Fire Marshal, Public Safety Division, dated December 8, 1982 pertaining to the fire at 88 Bloor Street East, August, 1982.

Exhibit Number	Description of Exhibit
	Attachment - Letter from Peter Gathercole re: pull stations at 88 Bloor, January 10, 1983.
102.	Verdict of the Coroner's Jury reporting on the cause of death of Basil Campbell, an occupant at 88 Bloor Street East.
103.	Block plan, Yonge and Bloor streets.
104.	Plan of section through 88 Bloor Street East in a north/south direction.
105.	Sketch of 18th floor apartment tower, 88 Bloor Street East, showing apartment layout.
106A.	Photograph of 21st floor corridor looking west, 88 Bloor Street East.
106B.	Photograph of manual station for fire alarm system, 88 Bloor Street East.
106C.	Photograph of entrance to east stair at the 20th floor level, 88 Bloor Street East.
106D.	Photograph of kitchen of apartment 1809, showing smoke staining from exhaust register, 88 Bloor Street East.
106E.	Photograph in apartment 2109 looking south, showing smoke staining and chesterfield, 88 Bloor Street East.
106F.	Photograph of breaker panel in apartment 2109, 88 Bloor Street East.
106G.	Photograph of door to apartment 1815, 88 Bloor Street East.
106H.	Close-up photograph of door to apartment 1815, 88 Bloor Street East.
106I.	Photograph of inside of door to apartment 1815, showing staining, 88 Bloor Street East.
106J.	Photograph of further-away view of inside of door to apartment 1815, 88 Bloor Street East.
106K.	Photograph of charred doorway, 88 Bloor Street East.
106L.	Photograph of apartment 1809 living room, looking south, 88 Bloor Street East.
106M.	Photograph of living room of apartment 1809, showing wall between 1809 and 1810, 88 Bloor Street East.
106N.	Photograph of living room of apartment 1809, looking northeast, 88 Bloor Street East.
106O.	Photograph of west wall of living room of apartment 1809, 88 Bloor Street East.
107.	Canadian Standards Association standard B222.3 manually actuated fire alarm signalling boxes, dated 1972.

Exhibit Number	Description of Exhibit
108.	Report of Peter Gathercole to Chief, Fire Engineering Section of Ministry of Solicitor General re Royal Trust Tower fire, dated January 3, 1974.
109.	Report of Peter Gathercole to Chief, Fire Engineering Section, Ministry of the Solicitor General dated December 9, 1982, re: 800 Richmond Street fire.
110.	Copy of information laid against Mount Brier Building Corporation, Toronto, the owner of 800 Richmond Street.
111.	Copy of report from Peter Gathercole to Mr. Pelletier of the Office of the Fire Marshal dated July 22, 1980 re fire at St. Joseph's Hospital in Hamilton, Ontario.
112.	Four page document consisting of the basement plan of St. Joseph's Hospital, first floor plan, second floor plan, and a section diagram through annex on a north/south axis.
113.	A reproduction of certain portions of Canadian Standards Association Standard B44-1975, being a safety code for elevators, dumbwaiters, escalators and moving walks.
114.	Supplement 3 dated 1982 to CSA B44-1975.
115.	Minutes of the 1982 annual meeting of the Canadian Standards Association B44 Committee on Elevator Safety Code, Newfoundland, September 28, 29, 30, 1982.
116.	Letter and five attachments from the Fire Marshal of Nova Scotia to Canadian Standards Association, dated August 19, 1982 re: CSA B44.
117.	Memorandum re: smoke control requirements under the Ontario Building Code, prepared by Commission staff.
118.	Ministry of Consumer and Commercial Relations, Newsletter no. 10, April, 1980 re: standards to be referred in Building Code.
119.	"Study of Additional Requirements for High Commercial Buildings" by Dunlop, Farrow, Aitken, October 27, 1982, including a revision to original Exhibit 119.
120.	Three-page document entitled, "Instances of Allowed Substitution of Sprinklering for Code Requirements in the Ontario Building Code", prepared by the staff of the Building Code Branch.
121.	List of persons invited by the Building Code Branch to discuss Part Five of the Ontario Building Code, Building Requirements for Handicapped Persons.
122.	Report of Committee on Uniform Building Standards for Ontario, dated November, 1969 (Carruthers Report).

Exhibit Number	Description of Exhibit
123.	Photostatic copy of Hansard of March 4, 1968, dealing with motion number 19 by Mr. Snow, re: adoption of National Building and Fire Codes by the Province.
124.	"Research in Human Behaviour" by J. L. Pauls and B. K. Jones. (see bibliography)
125.	Outline of services and schedule of recommended fees June 30, 1980 of Ontario Association of Architects.
126.	Photostatic copy of Regulation 438/81, being an amendment to the Regulation passed pursuant to the <i>Theatres Act</i> .
127.	Two-page outline of committees which were created as a result of the Carruthers Report.
128.	Publication of the Ontario Association of Architects entitled, "Performance Standard for Engineers for Field Services."
129.	The part of volume 2 of the Canadian Handbook of Practice for Architects dealing with the commissioning of buildings.
130.	Draft amendments to Ontario Building Code, as of January 17, 1983.
131.	Organization charts of the Ministry of Consumer and Commercial Relations, and the Building Code Branch.
132.	Letter dated December 31, 1982 from the Executive Director of the Technical Standards Branch of the Ministry of Consumer and Commercial Relations to the Chief Coroner, pertaining to certain recommendations of the Coroner's Jury on the inquest into the death of Basil Campbell.
133.	National Research Council, Associate Committee on the National Building Code proposed changes for 1983 interim revisions to the National Building Code.
134.	Building Standards for the handicapped, 1980, issued by the National Research Council, Associate Committee on the National Building Code.
135.	Curriculum vitae of Christopher Fillingham.
136.	Office consolidation of the <i>Hazardous Products Act</i> and Regulations, R. S., c. H-3.
137.	Hazardous Products (mattresses) Regulation PC-1980-2833 effective January 1, 1982.
138.	Photostatic copy of bill marked H. R. 1854, 97th United States Congress, 1st Session dealing with the requirement for persons who manufacture cigarettes to meet certain performance standards.
139.	Photostatic copy of a bill marked H. R. 877, 97th United States Congress, 1st Session to prohibit the adding of certain substances to a cigarette.



Exhibit Number	Description of Exhibit
140.	Picture of a switch gear.
141.	CSA standard C22.2 #178-1978 — automatic transfer switches.
142.	Revision to CSA standard C282-1977 — Emergency electrical power supply for buildings; amendment no. 3, amending clause 7.1.3 dealing with automatic transfer switches. (see Exhibit 29 for complete standard)
143.	List of standards in the Ontario Building Code looseleaf volume.
144.	Letter from Chief Wretham dated the 10th of January, 1983 concerning the highrise programme results for apartment building education programme conducted in Scarborough.
145.	Letter dated July 9, 1982 from the City of Winnipeg to Mr. Richardson, Codes and Standards Group, National Research Council of Canada, re: highrise buildings certification program conducted in Winnipeg.
146.	Article entitled, "Selective International Comparisons of Fire Loss, 1979-1980" by Jerry Banks. (see bibliography)
147.	Article entitled "Sprinkler Tradeoffs and the Australian Experience" by Harry Marryatt. (see bibliography)
148.	Article entitled, "Sprinkler Tradeoffs — are they Justified", by James P. Barris and Dario Conte-Russian. (see bibliography)
149.	Proforma expense and income calculation, and calculation re: the effect upon rents of cost of sprinklers within that proforma calculation, prepared by Christopher Cornish.
150.	Article entitled, "Risks of Risk Decisions", by Chauncey Starr and Chris Whipple. (see bibliography)
151.	A statement made in the Ontario Legislature on the 27th of January 1983 by The Honourable Norman Sterling, Minister without Portfolio, the Member for Carleton Grenville, re: transfer of Building Code Branch to the Ministry of Municipal Affairs & Housing.
152.	Toronto Star article, December 13, 1980, entitled "If it is fire safety you are after — live in a highrise in Toronto."
153.	Toronto Star article, October 22, 1982, entitled, "Highrise fires: Will the killing ever stop?"
154A.	Part 3 Ontario Building Code general check list for plans review, used by the Borough of Scarborough.
154B.	Fire alarm and detection system check list for plans examination, used by the Borough of Scarborough.
154C.	Check list for sprinkler systems for plans review, used by the Borough of Scarborough.

Exhibit Number	Description of Exhibit
154D.	Document entitled "High Buildings" containing general requirements for plan review and for checks in the field for inspectors, used by the Borough of Scarborough.
155A.	Document re: fire alarms, separations and standpipe systems, used by field inspectors in the Borough of Scarborough.
155B.	Borough of Scarborough Field inspection form re: sprinklers.
156A.	Fire alarm verification form completed by installer and given to inspector, in the Borough of Scarborough.
156B.	Emergency lighting verification form, completed by installer and given to inspector in the Borough of Scarborough.
157.	Letter dated January 31, 1983 from Seneca College of Applied Arts and Technology, pertaining to their two year diploma course and the proposed building inspection technicians' course.
158.	Curriculum vitae of Donal Baird.
159.	Fire statistics for the years 1976 to 1981, inclusive, and the role of smoke detectors, as prepared by Ontario Housing Corporation.
160.	Ontario Housing Corporation field manual no. 1 — "Policies and Administration," chapter 13, section 10, April 1, 1978.
160A.	Ontario Housing Corporation field manual, chapter 11, "Safety," and a covering letter from Mr. Beesley of the Ontario Housing Corporation, dated April 5, 1983.
161.	Portion of Ontario Housing Corporation field manual no. 1 — "Fire Safety Plan," chapter 13, section 17, dated March 1, 1980.
162.	Portion of Ontario Housing Corporation field manual — "Electrical Fire Equipment," chapter 14, section 6, dated March 1, 1977.
163.	Consultants' guide to fire alarm and emergency system upgrading programme, dated February 1, 1982, Ontario Housing Corporation.
164.	Ontario Housing Corporation, Residents' guide — seniors.
165.	Ontario Housing Corporation, Residents' guide — families.
166.	Letter dated January 31, 1983, from Mr. Beesley re: Ontario Housing Corporation upgrading and deficiencies.
167.	Letter dated February 16, 1983 from Mr. Beesley, re: major problems in sprinkler systems; disconnected smoke detectors; caretakers' qualifications.

<b>Exhibit Number</b>	<b>Description of Exhibit</b>
168.	Curriculum vitae of Peter Goering.
169.	Curriculum vitae of Byron Johnson.
170.	Curriculum vitae of Gerhard Granek.
171.	Curriculum vitae of Jake (J. L.) Pauls.
172.	Document entitled, "Objects and Activities of Building Use and Safety Institute" dated January 24, 1983.
173.	Document entitled, "Guidelines for Occupant Safety, Government-owned Buildings", Ministry of Government Services, Province of Ontario.
174.	Document entitled, "Building Emergency Evacuation Programme", Ministry of Government Services, Province of Ontario.
175.	Document entitled, "Emergency Evacuation Programme" Ministry of Government Services, Province of Ontario.
176.	Document entitled, "Building Emergency Evacuation Program — Disabled Persons", Ministry of Government Services, province of Ontario.
177.	Document entitled, "Building and Fire Safety Report", Ministry of Government Services, Property Management Branch.
178.	Curriculum vitae of John R. Bateman.
179.	Results of questionnaires sent to chief fire officials, re: fire safety plans, and fire drills. (See Appendix B.4)
180.	Attachments that relate to Exhibit 179.
181.	Curriculum vitae of Dr. John L. Bryan.
182.	Report entitled "Implications for Code and Behavior Models from the Analysis of Behavior Response Patterns in Fire Situations as selected from the Project People and the Project People II study programs," by Dr. John L. Bryan. (see bibliography)
183.	Report entitled, "An Examination and Analysis of the Dynamics of the Human Behaviour in the MGM Grand Hotel Fire", by Dr. John L. Bryan. (see bibliography)
184.	Investigative report of the MGM Grand Hotel fire, by Richard Best and David P. Demers. (see bibliography)
185.	Dr. Ann Cavoukian's report on Highrise Fire Safety Questionnaire conducted in apartment buildings and hotels. (See Appendix B.4)
186.	California Senate Bill number 703, and attached documents dealing primarily with the authorization of local fire agencies to annually inspect highrise buildings.
187.	The results of a questionnaire sent to owners and managers of highrise buildings, to which is attached

Exhibit Number	Description of Exhibit
	appendices A, B, C and D, which include the questionnaire, the covering letter and certain materials forwarded from the respondents. (See Appendix B.4)
188.	Report by A.W. Chow re: burn tests conducted in Fort Lauderdale, Florida, September 8th to 10th, 1982.
188A.	A letter dated March 4, 1983 from Canadian Automatic Sprinkler Association to Anthony Chow, commenting on Exhibit 188.
189.	<i>Standards Council of Canada Act</i> , Revised Statutes of Canada, 1970, 1st Supplement, c. 41.
190.	Random collection of fire safety information for occupants of highrise buildings.
191.	Letter from Help Products Limited dated February 18, 1983 and letter attached thereto from the Korean Fire Protection Association.
192.	Letter from the City of Ottawa Fire Department dated February 7, 1983; attachments include smoke detector by-law.
193.	Senate Bill #214 for the State of Nevada.
193A.	"Nevada's Retrofit Package" by T. J. Huddleston, Nevada State Fire Marshal. (see bibliography)
194.	Chicago Fire Department Air/Sea Rescue policy guidelines for activation and utilization of aircraft assistance plan.
195.	Helicopter Emergency Lifesaver Plan (HELP), Dallas/Fort Worth.
196.	Two documents produced by City of Houston re: Aircraft Assistance in Disaster Plan (AAID).
197.	Document entitled "Helicopter News" which illustrates certain helicopters available in Ontario, with load capacities.
198A.	<i>Professional Engineers Act</i> , Revised Statutes of Ontario, 1980 c. 394.
198B.	Pamphlet from Association of Professional Engineers of the Province of Ontario entitled, "To Serve and Defend."
198C.	Regulations, by-laws, code of ethics of Association of Professional Engineers of the Province of Ontario, as amended September, 1981.
198D.	Document entitled, "Performance Standards for Professional Engineers acting as Prime Consultants."
199.	Underwriters' Laboratories of Canada background pamphlet.
200.	Underwriters' Laboratories of Canada sample label.
201.	Memorandum re: significance of Underwriters' Laboratories of Canada label.



Exhibit Number	Description of Exhibit
202.	U.L.C. List of materials and equipment, March 1981, Volume I and supplement.
203.	U.L.C. List of materials and equipment, September 1980, Volume II and supplement.
204.	National Standard of Canada, Can-4 S101 M82, Standard methods of fire endurance tests of buildings construction materials.
205.	National Standard of Canada, Can-4 S102 M80, Standard method of test for surface burning characteristics of building materials.
206.	1981 Toronto Fire Department annual report.
207.	Letter and attached report re: false alarms from the Ministry of Municipal Affairs and Housing, Research and Development Section, dated January 5th, 1983, addressed to the General Manager of the Metro Toronto Housing Authority.
208.	Copy of a memorandum to A. W. Chow of the Ontario Fire Marshal's Office from Director J. Underwood of the Toronto Fire Department dated October 8th, 1982 re: false alarms in apartment buildings.
209.	Document entitled, "Ontario Fire Code, Charges and their Disposition" dated October 21, 1982.
210.	A copy of the decision of the Ontario Court of Appeal in the matter of <i>Her Majesty the Queen v. Harold Sandler</i> , [1971] 3 O. R. 614
211.	Curriculum vitae of Rashmi Nathwani.
212.	Letter from G. Adams, Technical Standards Division of Ministry of Consumer and Commercial Relations to Mr. M. Nixon, Commissioner and Chief Building Official of City of Toronto dated February 2, 1983, with attached list of provincial statutes pertaining to building.
213.	A chart comparing the <i>Theatres Act</i> , <i>Occupational Health &amp; Safety Act</i> , <i>Nursing Homes Act</i> and the <i>Hotel Fire Safety Act</i> .
214.	Letter from Office of the Fire Marshal of Ontario to Mr. Nixon of the City of Toronto dated February 19, 1982 re: theatre inspections.
215.	Retrofit cost analysis by the City of Toronto.
216. (a)-(d)	Papers and articles pertaining to toxicity of products of combustion.
217.	List of smoke control measures used in new construction in Toronto 1976 to mid-1982.
218.	City of Toronto Land Use Committee report number 4, item 14 dealing with building code regulations on locked stairwells.



Exhibit Number	Description of Exhibit
219.	Practice bulletin number 12 of the Ontario Association of Architects re: General Review During Construction.
220.	Specifications for retrofit for two apartment buildings, prepared by Dunlop, Farrow, Aitken.
221.	Curriculum vitae of Robert T. Myles.
222.	Brochure, "Profile: Hanscomb."
223.	Cost report entitled, "Retrofit of Existing Apartment Buildings", prepared by Hanscomb, January, 1983.
224.	Dunwoody and Co., Auditor's report dated February, 1983 re: a specific MURB project.
225.	Apartment retrofit study: Sprinklering on sample projects, prepared by Hanscomb.
226.	That portion of the 1979 draft Ontario Fire Code, as circulated for public comment, containing the report of Advisory Committee, and Minority report.
227.	Three-part form entitled, "Preventive Maintenance Report, Fire Alarm System", used by Maysfield Property Management Inc.
228.	Urban Development Institute fire safety plan.
229.	City of Mississauga fire safety pamphlet.
230.	Letter from Mr. McFadden of the Toronto Fire Department dated January 5, 1983 to Cadillac-Fairview, re: fire safety planning.
231.	Letter from Maysfield Property Management Inc. addressed to "Dear Resident" re: fire safety rules.
232.	Schematic plan of fire control system (Urban Development Institute).
233.	Fire drill instructions for buildings superintendents. (Urban Development Institute)
234.	Curriculum vitae of Donald J. Boehmer.
235.	A study brief by Donald J. Boehmer of Rolf Jensen & Associates Ltd., March 31, 1983.
236.	Computer printout from Fire Marshal's Office, details of highrise fires, 1976-1981, inclusive.
237.	Curriculum vitae of Jack Gringorten.
238.	Fire drill procedures, Olympia and York, dated November 11, 1982.
239.	EAO guidelines, covering letter and Emergency action plan from Olympia and York to new tenants.
240.	Letter received by the Commission from the City of North York, dated March 25, 1983, enclosing a copy of clause 5, Legislation Committee report number 6, re: the use of plastic pipe in the building industry.

Exhibit Number	Description of Exhibit
241.	Letter dated March 4, 1983 from Seneca College re: life safety course.
242.	Curriculum vitae of George B. Tatham.
243.	Membership booklet of Building Owners and Managers Association.
244.	Fire survey, 1974 to 1980, by Buildings Owners and Managers Association, International.
245A.	National Bank fire safety plan.
245B.	Continental Bank fire safety plan.
245C.	Richmond-Adelaide Center fire safety plan.
245D.	Pamphlet entitled, "Emergency Procedures, Oxford, Eastern Canada Division."
246.	Table of causes of death in Ontario, derived from Statistics Canada.
247.	Curriculum vitae of John W. Fothergill, Jr.
248.	Paper by John W. Fothergill, Jr., entitled, "Smoke Movement Within a Building."
249.	Curriculum vitae of Harry Shaw.
250.	Duraspeed sprinkler head, without deflector, with 165 degrees Fahrenheit solder.
251.	Raynell quick response sprinkler head.
252.	Industrial sprinkler head, quick response.
253.	Residential sprinkler head, sidewall, quick response, NFPA 13D.
254.	NFPA Standard 13D, sprinkler system-one and two-family dwellings.
255.	Document entitled, "Field Test of a Retrofit Sprinkler System at Fort Lauderdale" dated February, 1983.
256.	A brochure from Grinnell Fire Protection Systems Company with reference to Cobb County Sprinkler Systems.
257.	Curriculum vitae of Walter William Miller.
258.	Curriculum vitae of Douglas Howes.
259.	Curriculum vitae of Alvin McBride.
260.	Revised Regulations of Ontario 58/80 re: sprinkler and fire protection installers, <i>Apprenticeship and Tradesmen's Qualification Act</i> .
261.	Curriculum vitae of William Kennaley.
262.	Regulations pursuant to <i>the Fire Prevention Act</i> , R.S.N.S., 1967, c.107, s.53, re: automatic sprinklers.
263.	Regulation 63/79, pursuant to <i>the Fire Prevention Act</i> , (Saskatchewan) re: automatic sprinklers.

Exhibit Number	Description of Exhibit
264.	Reports of fires in sprinklered buildings in Vancouver, 1979, 1980 and 1981, and summary.
265.	Curriculum vitae of Fred Bever.
266.	<i>Residential Tenancies Act</i> , Revised Statutes of Ontario, 1980, c. 452, s. 131.
267.	Rent review guidelines, number RR-3, dated November 17, 1982.
268.	Calculation of apartment units to 1975 and post-1975, Central Mortgage and Housing Corporation source material.
269.	Letter dated March 30, 1983 from Mr. Hansen of the National Research Council addressed to the Commission with reference to Part 3 of the National Building Code. (disabled persons)
270.	Booklet entitled, "Environmental Modifications for the Visually Impaired—a Handbook" published by the American Foundation for the Blind.
271.	Letter dated March 18, 1983 from Mr. Davidson of Ontario Hydro addressed to the Commission re: proposed amendment to CSA Standard 282 and the electrical code.
272.	Letter dated April 11, 1983 from Dr. Viau, addressed to the Commission concerning self-extinguishing cigarettes, labelling of furniture and flame retardant.
273.	Research memorandum dated January 21, 1983 from Becky Quance, re: research concerning emergency communication over cable TV.
274.	Research memorandum dated February 15, 1983 from Becky Quance re: use of National Building Code across Canada.
275.	Research memorandum dated February 15, 1983 from Becky Quance re: use of National Fire Code across Canada.
276.	Copies of nine letters addressed to Mr. Fillingham from various provinces re: legislative requirements for sprinklers.
277.	Letter dated February 28, 1983 from the Boston Fire Department pertaining to control of decorations, furnishings and interior finish.
278.	National Fire Protection Association investigation report dated March 6, 1982 relating to the fire at the Westchase Hilton Hotel in Houston, Texas.
279.	Letter dated March 3, 1983 from the ECE Group Limited to the Commission enclosing a copy of the report to Urban Development Institute concerning control of smoke movement in high buildings, dated November 23, 1970.

Exhibit Number	Description of Exhibit
280.	Report by Byron Johnson, dated March, 1983, entitled, "Evacuation Techniques for Disabled Persons." (see bibliography)
281.	Letter dated April 21, 1983 from the Etobicoke Fire Department re: the fire at 21 Richgrove Drive, Apartment 705, Etobicoke, on April 19th, 1983.
282.	The Floor plan, A Wing, Sunnybrook Hospital, City of North York.
283.	Floor plan, Apartment 1004, 20 Falstaff, and hall plan of 10th floor, 20 Falstaff, City of North York.
284.	Letter dated March 16, 1983 from Chief Gibson, of the City of North York Fire Department, together with the attachments, re: order made pursuant to <i>Fire Marshals Act</i> , s.18.
285.	Fire Marshal's order dated July 9, 1982. (sample of actual order issued)
286.	Booklet entitled, "The Guidelines for Preparation of Fire Safety Plans for Residential Buildings" prepared by the Office of the Fire Marshal. (see bibliography)
287.	Document dated March 22, 1983, part 9, Retrofit, sections 9.1; 9.2; and 9.3 of Ontario Fire Code, and filed as Ontario Regulation 251/83 on April 29, 1983.
288.	Fire prevention inspection manual of the Solicitor General's Office, March, 1983.
289.	Document dated March 2, 1983, section 9.4, Health care facilities. (Draft amendments to part 9 related to Retrofit in Ontario Fire Code)
290.	Letter dated April 5, 1983 to Mr. Cooper, Executive Director, Ontario Hotel and Motel Association from Mr. Hess, Office of the Fire Marshal, re: training of hotel management and staff.
291.	Looseleaf book containing the Hotel Fire Safety Seminar Course content for hotel fire safety specialists.
292.	Draft sample pamphlet entitled, "How to Survive a Hotel Fire" prepared by Office of the Fire Marshal.
293.	Fire Marshal's Office sign for hotels where there is a general evacuation alarm system.
294.	Fire safety sign for hotels with a two-stage alarm system (Office of the Fire Marshal).
295.	Local law number 5 for the City of New York; also local laws numbers 79, 84, 86 re: fire safety; and a copy of a decision of Appellate Division, Supreme Court of New York, <i>McCallin v. Walsh, et al.</i> 407 New York Supplement, 2d Series 852.
296.	Research memorandum dated March 2, 1983, by Becky Quance and Kate Murphy re: Water gel blanket; effect of present regulatory system on a specific product.



Exhibit Number	Description of Exhibit
297.	Letter dated May 2, 1983 from the Firefighters' Association of Ontario to the Commission re: the work of the Commission.
298.	Article entitled, "Overview — Smoke Control Manual" by John H. Klote. (see bibliography)
299.	NFPA position paper by Robert Grant, President of NFPA, entitled, "Smoke Masks Not Recommended". (see bibliography)
300.	Document entitled, "Literature Review; Flame-retardant Chemicals in Textiles," by A. G. Ulsamer et al., and produced by the Consumer Products Safety Commission in Washington, D. C. (see bibliography)
301.	Letter from Dr. Viau, to the Commission dated May 12, 1983 re: P.T.E. formula 111.
302.	Letter from E. M. Tuff of Otis Elevator Company Limited to the Commission dated April 29, 1983, re: NBC requirements affecting elevators.
303.	Letter from the City of Toronto to the Commission dated May 11, 1983 with reference to undertakings made during the evidence of Mr. Nathwani and Mr. Sproule.
304.	Letter from the Canadian Automatic Sprinkler Association to the Commission dated May 6, 1983, pertaining to the undertakings made during evidence of Mr. Kennaley.
305.	List of statutes in the Province of Ontario pertaining to fire safety and building matters prepared by Commission staff, and a memorandum by Kate Murphy breaking the list into six classifications.
306.	Memorandum from the Technical Secretary of the Standing Committee on Use and Occupancy Part 3, of National Research Council of Canada, addressed to the Task Group on High Buildings, received on May 13, 1983 by the Ontario Fire Marshal's Office, re: the disbanding of the Highrise Task Group, and the preparation of a paper on mandatory sprinkling.
307.	Newsletter, March 1983, by Ministry of Municipal Affairs and Housing, re: Building Code Commission's opinion on the standard to be met in installations exceeding the Building Code requirements.
308.	Letter dated May 13, 1983 from the Fire Marshal's Office to the Commission re: the convictions under the Ontario Fire Code up to May 6, 1983, in the City of Toronto.
309.	Research memorandum by Kate Murphy, dated May 18, 1983, pertaining to central station connections and the cost thereof.



Exhibit Number	Description of Exhibit
310.	Letter dated May 19, 1983 from the City of Toronto Department of Buildings and Inspections to the Commission, which is a review of legislation concerning building and fire standards.
311.	Letter dated May 16, 1983 from McFadden, Marrocco and Parker, enclosing the report of May, 1982 pertaining to the <i>Fire Marshals Act</i> , the <i>Building Code Act</i> and the Property Standards by-laws passed pursuant to the Planning Act.
312.	Letter from M & M Protection Consultants to the Commission dated May 5, 1983, enclosing an article entitled "Highlights of a Field Test of Retrofit Sprinkler Systems", by Arthur Cote. (see bibliography)
313.	Letter to a George H. Fleming from the Ministry of Energy and attachments re: curriculum of course for Building Officials.
314.	Report of Beth S. Tate to R. R. Philippe, Office of the Fire Marshal re: First Canadian Place fire, dated November 16, 1983.
315.	Report to the Ministry of Municipal Affairs and Housing, and to the Ontario Association of Property Standards Officers Inc. on Provincial and Municipal Legislation and Administration Relating to Buildings prepared by McFadden, Marrocco & Parker, Barristers and Solicitors, dated June, 1983.
316.	Statement of James C. Stevens, Special Projects Engineer, Office of the Fire Marshal re: fire at 170 Lees Avenue, Ottawa, dated June 30, 1983.  Report of Gordon H. Yoshida, Office of the Fire Marshal, re: fire at 170 Lees Avenue, Ottawa, dated August 9, 1983.

## Appendix A.8

### PUBLIC NOTICE



Ontario

#### **Commission of INQUIRY into FIRE SAFETY IN HIGHRISE BUILDINGS in Ontario**

By Order-in-Council dated the 30th day of June, 1982, His Honour Judge John B. Webber was appointed pursuant to the Public Inquiries Act, R.S.O. 1980, to:

1. assess the dangers to which occupants are exposed when a fire occurs in a highrise building;
2. to assess the public's understanding of the action that should be taken in the event of a fire and evaluate the need for public education programs; and to assess the public's perception as to whether occupancy of highrise buildings is especially hazardous and if so, why;
3. to assess the value of fire safeguards required by law;
4. to examine the effectiveness of fire prevention inspections conducted in highrise buildings by public and private agencies;
5. to recommend changes to laws or practices and procedures and make such other recommendations as may be appropriate with a view to improving the standard of fire safety in highrise buildings.

##### **Notice of Hearing**

The first session of the Commission will be convened on Monday, the 13th day of September, 1982, at the hour of 10:00 o'clock in the forenoon, Hearing Room #1, 21st Floor, 180 Dundas Street West, Toronto, Ontario, for the purpose of establishing procedures and granting standing to interested individuals and organizations. Anyone intending to participate in the Commission's hearings is invited to attend and may make submissions at the above noted time.

Parties granted standing may call witnesses, conduct cross-examinations and make submissions. Any party who seeks standing should apply in writing to the Commission by September 13th, 1982, or appear at the hearing scheduled for that date. In all instances, applicants should state why they seek standing and why they believe they have a substantial and direct interest in the subject matter of the Inquiry.

Any party, with or without standing, may make written submissions to the Commission.

**The Commission seeks opinions, comments and information from all interested individuals and organizations.**

**The dates, times and places of public hearings will be announced later.**

**COMMISSION OF INQUIRY INTO  
FIRE SAFETY IN HIGHRISE BUILDINGS  
IN ONTARIO,**

**Ste. 2005, 180 Dundas Street West  
Toronto, Ontario M5G 1Z8  
Telephone: (416) 963-2024**

**His Honour Judge John B. Webber,  
Commissioner,  
Victor L. Freidin,  
Counsel to the Commission**

## **Appendix A.9**

### **COUNSEL APPEARING BEFORE THE INQUIRY**

Mr. L. H. Iron, Q. C.	— Counsel for PTE Industries Inc.
Mr. Karl Jaffary, Q. C. and Mr. John Petrosoniak (student-at-law)	— Counsel for Urban Development Institute, Apartment Group; Housing and Urban Development Association of Canada, Ontario Council; Metropolitan Toronto Apartment Builders Association.
Ms. A. T. Kowalishin	— Counsel for City of Toronto.
Mr. L. Margulies	— Counsel for Berhold Investments Ltd.
Mr. B. S. Onyschuk, Q. C. and Mr. C. MacFarlane	— Counsel for Canadian Institute of Public Real Estate Companies; International Council of Shopping Centres, Canadian Committee; and Building Owners and Managers Association.

### **AGENTS APPEARING BEFORE THE INQUIRY**

Ms. Mary Ann Cummings and Mr. Christopher Dassios	Parkdale Community Legal Services for Federation of Metropolitan Toronto Tenants' Associations
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## **PART B: RELATED TO RESEARCH**

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### **Appendix B.1**

#### **REVISED STATUTES OF ONTARIO, 1980 RE: FIRE SAFETY & BUILDING MATTERS**

1. Accidental Fires Act, Chapter 4
2. Apprenticeship & Tradesmen's Qualification Act, Chapter 24  
Regulations — R.R.O. 1980, Reg. 58
3. Boilers and Pressure Vessels Act, Chapter 46
4. Building Code Act, Chapter 51  
Regulations — R.R.O. 1980, Reg. 87
5. Charitable Institutions Act, Chapter 64  
Regulations — R.R.O. 1980, Reg. 95
6. Children's Institutions Act, Chapter 67  
Regulations — R.R.O. 1980, Reg. 98
7. Children's Mental Health Services Act, Chapter 69  
Regulations — R.R.O. 1980, Reg. 100
8. Children's Residential Services Act, Chapter 71  
Regulations — R.R.O. 1980, Reg. 101
9. Community Psychiatric Hospitals Act, Chapter 79
10. Day Nurseries Act, Chapter 111  
Regulations — R.R.O. 1980, Reg. 235
11. Developmental Services Act, Chapter 118  
Regulations — R.R.O. 1980, Reg. 242
12. Egress from Public Buildings Act, Chapter 130
13. Elderly Persons Centres Act, Chapter 131  
Regulations — R.R.O. 1980, Reg. 278
14. Elevating Devices Act, Chapter 135
15. Energy Act, Chapter 139  
Regulations — R.R.O. 1980, Reg. 288
16. Fire Accidents Act, Chapter 163
17. Fire Departments Act, Chapter 164
18. Fire Marshals Act, Chapter 166  
Regulations — R.R.O. 1980, Reg. 394
19. Gasoline Handling Act, Chapter 185
20. Highway Traffic Act, Chapter 198
21. Hotel Fire Safety Act, Chapter 207  
Regulations — R.R.O. 1980, Reg. 505
22. Homes for Retarded Persons Act, Chapter 201

23. Homes for Special Care Act, Chapter 202  
Regulations — R.R.O. 1980, Reg. 501
24. Homes for the Aged & Rest Homes Act, Chapter 203  
Regulations — R.R.O. 1980, Reg. 502
25. Lightning Rods Act, Chapter 239
26. Liquor Licence Act, Chapter 244  
Regulations — R.R.O. 1980, Reg. 581
27. Mental Hospitals Act, Chapter 263
28. Municipal Act, Chapter 302
29. Nursing Homes Act, Chapter 320  
Regulations — R.R.O. 1980, Reg. 690
30. Occupational Health & Safety Act, Chapter 321  
Regulations — R.R.O. 1980, Reg. 691
31. Ontario Water Resources Act, Chapter 361  
Regulations — R.R.O. 1980, Reg. 736
32. Pesticides Act, Chapter 376  
Regulations — R.R.O. 1980, Reg. 751
33. Power Corporation Act, Chapter 384  
Regulations — R.R.O. 1980, Reg. 794
34. Planning Act, Chapter 379
35. Private Hospitals Act, Chapter 389
36. Private Sanitaria Act, Chapter 391
37. Public Halls Act, Chapter 408
38. Public Health Act, Chapter 409
39. Public Hospitals Act, Chapter 410  
Regulations — R.R.O. 1980, Reg. 856
40. Public Institutions Inspection Act, Chapter 412
41. Theatres Act, Chapter 498  
Regulations — R.R.O. 1980, Reg. 931
42. Tourism Act, Chapter 507

The foregoing list can be roughly categorized as follows:

1) **statutes directed to tort liability:**

Accidental Fires Act

Fire Accidents Act

Lightning Rods Act; although this Act regulates the installment of lightning rods, it also limits the installer's civil liability in case of failure of the product.

2) **statutes directed to building, or the work of construction:**

Building Code Act (Building Code)

Egress from Public Buildings Act

Elevating Devices Act

Ontario Water Resources Act (Plumbing Code)

Planning Act; although this Act allows the municipality to pass by-laws with regard to use and occupancy, many of the matters referred to are, directly building code matters.

Note: Section 46, sub. 1, Sections 8, 12, 14, 24, 25, as examples.



Public Health Act; this Act gives different requirements for washrooms from those found in the Building Code.

Tourism Act

3) **statutes directed to fire matters:**

Fire Departments Act

Fire Marshals Act (Fire Code)

Municipal Act — Note Section 210, sentence 24 and following, as examples.

4) **statutes directed to both building &/or fire matters:**

(certain of these statutes have a Regulation Section that would allow the Lieutenant-Governor in Council to pass regulations dealing with building &/or fire matters, but do not presently have such regulations).

Charitable Institutions Act

Children's Institutions Act

Children's Mental Health Services Act

Children's Residential Services Act

Community Psychiatric Hospitals Act

Day Nurseries Act

Developmental Services Act

Elderly Persons Centres Act

Hotel Fire Safety Act

Homes for Retarded Persons Act

Homes for Special Care Act

Homes for the Aged & Rest Homes Act

Liquor Licence Act

Mental Hospitals Act

Nursing Homes Act

Occupational Health & Safety Act

Power Corporation Act

Private Hospitals Act

Private Sanitaria Act

Public Hospitals Act

Theatres Act

5) **statutes directed to flammable and combustible liquids/hazardous materials, processes and operations:**

Boilers and Pressure Vessels Act

Energy Act — handling of hydrocarbons

Gasoline Handling Act

Highway Traffic Act — transportation of explosives and dangerous materials

Pesticides Act — storage of flammable materials

6) **Miscellaneous:**

Apprenticeship and Tradesmen's Qualification Act

— qualification of sprinkler fitters

Public Halls Act — requires a licence but does not list criteria

Public Institutions Inspection Act — citizens as "inspectors" in public buildings, as defined.

## Appendix B.2

### ABBREVIATIONS

ACNBC	Associate Committee on the National Building Code. (National Research Council of Canada — Ottawa, Ontario K1A 0R6)
ACNFC	Associate Committee on the National Fire Code. (National Research Council of Canada — Ottawa, Ontario K1A 0R6)
ANSI	American National Standards Institute. (1430 Broadway, New York, New York, U.S.A. 10018)
APEO	Association of Professional Engineers of the Province of Ontario. (1027 Yonge Street, Toronto, Ontario M4W 3E5)
ASHRAE	American Society of Heating, Refrigerating and Air-conditioning Engineers. (345 East 47th Street, New York, New York, U.S.A. 10017)
ASTM	American Society for Testing and Materials. (1916 Race Street, Philadelphia, Pa. U.S.A. 19103)
BOMA	Building Owners and Managers Association. (372 Bay Street, Ste. 1700, Toronto, Ontario M5H 2W9)
BOMI	Building Owners and Managers Institute. (372 Bay Street, Ste. 1700, Toronto, Ontario M5H 2W9)
BUSI	Building Use and Safety Institute. (Room 178, Building M50, National Research Council, Ottawa, K1A 0R8)
CAFC	Canadian Association of Fire Chiefs Inc. (1590-7 Liverpool Court, Ottawa, Ontario K1B 4L2)
CASA	Canadian Automatic Sprinkler Association. (640 Hood Road, Markham, Ontario L3R 3K9)
CFAA	Canadian Fire Alarm Association. (55 Idema Road, Markham, Ontario L3R 1A9)
CIPREC	Canadian Institute of Public Real Estate Companies. (390 Bay Street, Ste. 2806, Toronto, Ontario M5H 2Y2)
CNIB	Canadian National Institute for the Blind. (1931 Bayview Avenue, Toronto, Ontario M4G 4C8)
CGSB	Canadian Government Specifications Board. (c/o Department of Supply and Services, 88 Metcalfe Street, Ottawa, Ontario K1A 0S5)
CSA	Canadian Standards Association. (178 Rexdale Blvd., Rexdale, Ontario M9W 1R3)
DBR/NRC	Division of Building Research, National Research Council of Canada. (National Research Council of Canada, Ottawa, Ontario K1A 0R6)

FHAP	Federal Housing Action Program (101 Bloor Street, Toronto, Ontario M5S 1P8)
FMTA	Federation of Metropolitan Tenants' Associations. (366 Adelaide St. E., Ste. 233, Toronto, Ontario M5A 3X9)
HUDAC	Housing and Urban Development Association of Canada (Ontario Council). (5218 Yonge Street, Willowdale, Ontario M2N 5P7)
IAO	Insurers Advisory Organization. (180 Dundas Street West, Ste. 2600, Toronto, Ontario M5G 1Z8)
ICSC	International Council of Shopping Centres. (Box 375, Royal Trust Tower, Toronto, Ontario M5K 1K8)
LPMA	The London Property Management Association. (London, Ontario 672-8240)
MTABA	Metropolitan Toronto Apartment Builders Association. (150 Consumers Road, Ste. 402, Willowdale, Ontario M2J 1P9)
MTHC	The Metropolitan Toronto Housing Company. (110 Eglinton Avenue East, Toronto, Ontario M4P 2Y1)
NBC	National Building Code of Canada. (National Research Council of Canada, Ottawa, Ontario K1A 0R6)
NCPA	National Concrete Producers Association. (1013 Wilson Avenue, Downsview, Ontario M3K 1G1)
NFC	National Fire Code of Canada. (National Research Council of Canada, Ottawa, Ontario K1A 0R6)
NFPA	National Fire Protection Association. (470 Atlantic Avenue, Boston, Massachusetts, U.S.A. 02210)
NRC	National Research Council of Canada. (Ottawa, Ontario K1A 0R6)
OAA	Ontario Association of Architects. (50 Park Road, Toronto, Ontario M4W 2N5)
OBC	Ontario Building Code.
OBOA	Ontario Building Officials Association Inc. (150 Central Park Drive, Brampton, Ontario L6T 2T9)
OCBA	Ontario Concrete Block Association. (1013 Wilson Avenue, Downsview, Ontario M3K 1G1)
OFC	Ontario Fire Code.
OHAP	Ontario Housing Action Program. (444 Lumsden Avenue, Toronto, Ontario M4G 2L8)
OHC	Ontario Housing Corporation. (444 Lumsden Avenue, Toronto, Ontario M4G 2L8)
OMFPOA	Ontario Municipal Fire Prevention Officers Association. (5815 Morrison Street, Niagara Falls, Ontario L2E 2E8)
OPFFA	Ontario Professional Fire Fighters Association. (555 Burnhamthorpe Road, Ste. 210, Etobicoke, Ontario M9C 2Y3)
PACNBC	Provincial Advisory Committee on the National Building Code. (National Research Council of Canada, Ottawa, Ontario K1A 0R6)

SCC	Standards Council of Canada. (350 Sparks Street, Ottawa, Ontario K1R 7S8)
SFPE	Society of Fire Prevention Engineers. (141 Adelaide Street West, Ste. 406, Toronto, Ontario M5H 3L5)
TBSA	Toronto Building Superintendents' Association. (P.O. Box 5214, Station A, 17 Front Street West, Toronto, Ontario M5W 1N5)
TDPL	Third Degree Prevention Ltd. (2650 John Street, Unit 22, Markham, Ontario L3R 2W6)
UDI	Urban Development Institute. (60 Bloor Street West, Ste. 1203, Toronto, Ontario M4W 3B8)
UL	Underwriters' Laboratories, Inc. (207 East Ohio Street, Chicago, Ill. U.S.A. 60611)
ULC	Underwriters' Laboratories of Canada. (7 Crouse Road, Scarborough, Ontario M1R 3A9)

## Appendix B.3

### DEFINITIONS

The following definitions are common to the Ontario Fire Code and the Ontario Building Code, with these exceptions:

\* Ontario Fire Code only

\*\* Ontario Building Code only

\*\*\* developed from the evidence by Commission staff

**Alarm signal:** a signal indicating an emergency such as an alarm for fire from a manual box, a water flow alarm, an alarm from an automatic fire alarm system or other emergency signal.\*

**Assembly occupancy:** the occupancy of a building, or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink. (Group A)

**Building height:** the number of storeys contained between the roof and the floor of the first storey.

**Business and personal services occupancy:** the occupancy of a building or part thereof for the transaction of business or the rendering or receiving of professional or personal services. (Group D)\*\*

**Check:** visual observation to ensure the device or system is in place and is not obviously damaged or obstructed.\*

**Chief Fire Official:** the Municipal Fire Chief or where there is no fire department, such assistant to the Fire Marshal as the Fire Marshal may designate for the Municipality or territory without municipal organization.\*

**Closure:** a device for shutting off an opening through a construction assembly, such as a door or a shutter, and includes all components such as hardware, frames and anchors.

**Designer:** the person responsible for the design.\*\*

**Dwelling unit:** a room or suite of rooms used or intended to be used as a domicile by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

**Electrically supervised control valve:** a valve permanently fitted with a mechanical device to actuate electrical contacts upon initiation of valve actuation.\*\*

**Exit:** that part of a means of egress that leads from the floor area it serves, including any doorway leading directly from a floor area, to a public thoroughfare or to an open space.

**Exit, access to:** that part of a means of egress within a floor area that provides access to an exit serving the floor area.\*



<b>Exit level:</b>	the lowest level in an enclosed exit stairway from which an exterior door provides access to a public thoroughfare or to an open space with access to a public thoroughfare at approximately the same level either directly or through a vestibule or exit corridor.**
<b>Fire compartment:</b>	an enclosed space in a building that is separated from all parts of the building by enclosing construction providing a fire separation having a required fire-resistance rating.
<b>Fire damper:</b>	a closure which consists of a normally held open damper installed in an air distribution system or in a wall or floor assembly, and designed to close automatically in the event of a fire in order to maintain the integrity of the fire separation.
<b>Fire load:</b>	the combustible contents of a room or floor area expressed in terms of the average weight of combustible materials per square foot, and includes the furnishings, finished floor, wall and ceiling finishes, trim and temporary and movable partitions.**
<b>Fire prevention:</b>	action taken to prevent fires. When used in relation to fire departments, it describes the function of fire department personnel who conduct building inspections, disseminate fire prevention literature, and engage in other pre-fire safety activities. In larger centres, this function is often performed by full-time fire prevention officers.***
<b>Fire-protection rating:</b>	the time in hours or fraction thereof that a closure, window assembly or glass block assembly will withstand the passage of flame when exposed to fire under specified conditions of test and performance criteria.
<b>Fire resistance:</b>	the property of a material or assembly to withstand fire or give protection from it and when it is applied to elements or buildings, it is characterized by the ability to confine a fire or to continue to perform a given structural function, or both.
<b>Fire-resistance rating:</b>	the time in hours or fraction thereof that a material or assembly of materials will withstand the passage of flame and the transmission of heat when exposed to fire under specified conditions of test and performance criteria, or as determined by extension or interpretation of information derived therefrom.
<b>Fire safety plan:</b>	a written plan prepared by a building owner containing provisions for maintenance, evacuation procedures, and other important essentials for life safety within buildings. The minimum requirements for such plans are contained in OFC Section 2.8.***
<b>Fire separation:</b>	a construction assembly that acts as a barrier against the spread of fire and may not be required to have a fire-resistance rating or a fire-protection rating.
<b>Fire stop:</b>	a draft-tight barrier within or between construction assemblies that acts to retard the passage of smoke and flame.

<b>Fire stop flap:</b>	a device intended for use in horizontal assemblies required to have a fire-resistance rating and incorporating protective ceiling membranes, which operates to close off a duct opening through the membrane in the event of a fire.
<b>Fire suppression:</b>	acts which extinguish flame. When used in relation to the fire department, it describes the function performed by fire-fighters who extinguish fires. In terms of equipment, it refers to any device which automatically extinguishes fires (e.g., sprinklers) or is operated manually for that purpose (e.g. fire extinguishers).***
<b>Flame-spread rating:</b>	an index or classification indicating the extent of spread-of-flame on the surface of a material or an assembly of materials as determined in a standard fire test as prescribed in this Regulation.
<b>Grade:</b>	the average level of proposed or finished ground adjoining a building at all exterior walls.
<b>Heat detector:</b>	a device for sensing an abnormally high air temperature or an abnormal rate of heat rise and automatically initiating a signal indicating this condition.**
<b>Independent central station:</b>	a continually supervised station under the control of a company independent of the owners of the building to be protected, that conforms with NFPA 71-1972, "Installation, Maintenance and Use of Central Station Protective Signalling Systems for Guard, Fire Alarm and Supervisory Service".
<b>Inspect:</b>	physical examination to determine that the device or system will apparently perform in accordance with its intended function.*
<b>Institutional occupancy:</b>	the occupancy of a building or part thereof by persons who because of age, mental or physical limitations require special care or treatment or by persons involuntarily detained or whose liberties are restricted. (Group B)**
<b>Institutional occupancy:</b>	the occupancy or use of a building or part thereof by persons harboured or detained to receive medical care or treatment, or by persons involuntarily detained. (Group B)*
<b>Licence:</b>	permission or authorization in writing by the Chief Fire Official to carry out activities regulated by the Fire Code.*
<b>Listed:</b>	certified for its intended use as having been produced under the certification program of Underwriters' Laboratories of Canada or Canadian Standards Association.
<b>Major occupancy:</b>	the principal occupancy for which a building or part thereof is used or intended to be used, and shall be deemed to include the subsidiary occupancies which are an integral part of the principal occupancy.**

<b>Means of egress:</b>	a continuous path of travel provided by a doorway, hallway, corridor, exterior passageway, balcony, lobby, stair, ramp or other egress facility or combination thereof, for the escape of persons from any point in a building floor area, room or contained open space to a public thoroughfare or other open space and includes exits and access to exits.
<b>Mercantile occupancy:</b>	the occupancy or use of a building or part thereof for the displaying or selling of retail goods, wares or merchandise. (Group E)
<b>Noncombustible:</b>	material that conforms to CSA B54.1-1972, "Determination of Non-Combustibility in Building Materials".
<b>Noncombustible construction:</b>	that type of construction in which a degree of fire safety is attained by the use of non-combustible materials for structural members and other building assemblies.
<b>Occupant:</b>	any person, firm, or corporation who is jointly responsible with an owner in respect of the property under consideration over which the occupant has control.
<b>Occupancy, major:</b>	the principal occupancy for which a building or part thereof is used or intended to be used, and shall be deemed to include the subsidiary occupancies which are an integral part of the principal occupancy.*
<b>Owner:</b>	any person, firm or corporation controlling the property under consideration.
<b>Permit:</b>	permission or authorization in writing by the Chief Fire Official to demolish a building or part thereof or to retrofit a building or premises or to install or replace equipment to the requirements of the Fire Code.*
<b>Plenum:</b>	an air compartment or chamber which may have one or more ducts connected to it and which forms part of an air distribution system.**
<b>Pre-fire plan:</b>	fire department response for specific building or building type.***
<b>Products of combustion detector:</b>	a device for sensing the presence of visible or invisible particles produced by combustion and automatically initiating a signal indicating this condition.**
<b>Proprietary control centre:</b>	a continually supervised station under the control of the owner or others interested in the building or buildings to be protected that conforms with Class A proprietary signalling systems in NFPA 72D-1973, "Installation, Maintenance and Use of Proprietary Protective Signalling Systems for Guard, Fire Alarm and Supervisory Service".**
<b>Public corridor:</b>	a corridor that provides access to exit from individually rented rooms, suites of rooms or dwelling units.
<b>Residential occupancy:</b>	the occupancy or use of a building or part thereof by persons for whom sleeping accommodation is provided but who are not harboured or detained to receive medical care or treatment or are not involuntarily detained. (Group C)**



<b>Retrofit:</b>	the minimum performance requirements for life safety for all existing buildings.* Also used to describe the upgrading of existing buildings (mandatory or voluntary).
<b>Service space:</b>	space provided in a building to facilitate or conceal the installation of building service facilities such as chutes, ducts, pipes, shafts or wires.**
<b>Smoke detector:</b>	a device for sensing the presence of visible or invisible particles produced by combustion, and automatically initiating a signal indicating this condition.**
<b>Smoke control:</b>	the provision of safe conditions for the occupants of a high building who may have to remain in the building during a fire, by protecting exit routes and by assisting firefighters with provision of efficient access to the fire floor as required by NBC/OBC, Section 3.2.6.***
<b>Smoke control measures:</b>	Detailed measures that may be incorporated in a building in order to comply with the requirements relating to control of smoke that are included in Subsection 3.2.6 of the NBC. The measures identified are not meant to exclude other means of attaining the same objectives.***
<b>Smoke venting:</b>	the means used by firefighters to remove smoke from a building. Minimum requirements for such venting in highrise buildings are contained in OBC 3.2.6.5.***
<b>Sprinklered:</b>	that the building or part thereof is equipped with a system of automatic sprinklers.
<b>Storey:</b>	that portion of a building which is situated between the top of any floor and the top of the floor next above it, and if there is no floor above it, that portion between the top of such floor and the ceiling above it.
<b>Supervisory signal:</b>	a signal indicating the need for action in connection with the supervision of sprinkler and other extinguishing systems or equipment, or with the maintenance features of other protection systems.**
<b>Supervisory staff:</b>	the occupants of a building who have some delegated responsibility for the fire safety of other occupants under the fire safety plan and may also refer to the local fire department where it assumes these responsibilities.*
<b>Supply duct:</b>	a duct for conveying air from a heating, ventilating or air conditioning appliance to a space to be heated, ventilated or air-conditioned.**
<b>Test:</b>	operation of device or system to ensure that it will perform in accordance with its intended operation or function.*
<b>Vertical service space:</b>	a shaft oriented essentially vertically that is provided in a building to facilitate the installation of building services including mechanical, electrical and plumbing installations and facilities such as elevators, refuse chutes and linen chutes.**

# Appendix B.4

## QUESTIONNAIRES

1. Apartments: For responses and analysis see Exhibit 185.
2. Hotels: For responses and analysis see Exhibit 185.
3. Ontario Chief Fire Officials: For responses and analysis see Exhibits 179 and 180.
4. Building Owners, Developers & Managers: For responses and analysis see Exhibit 187.

### 1. Apartments: Highrise Questionnaire

1. If you discovered a fire in the building where you presently reside, what would you do?

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2. Name what fire safety devices have been provided in your highrise building.

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3. When the fire alarm goes off in your building, do you (circle one):
  - a) believe that there is a fire and take whatever action you believe necessary in the event of a fire,
  - b) call the superintendent or a similar person to find out whether there actually is a fire,
  - c) check in the hallway to see if there is any evidence of a fire, and if not, ignore the alarm,
  - d) assume that it is a false alarm and ignore it.
4. Have you had many false fire alarms in your building? If so, please estimate the number of false alarms you have had in the last year: \_\_\_\_\_
5. Of all the fire alarms set off in your building, what percentage would you say were false? \_\_\_\_\_
6. Is the fire department automatically notified when the fire alarm is pulled?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
7. In the event of a fire in your building, would you exit from your apartment if you smelled smoke outside of your doorway?  
\_\_\_\_\_ Yes \_\_\_\_\_ No



8. If there was no smoke outside of your apartment, would you attempt to evacuate the building or stay in your apartment?  
 \_\_\_\_\_ Attempt to evacuate (go to question 9)  
 \_\_\_\_\_ Stay in apartment (skip to question 10)
9. If you were to attempt to evacuate the building, what method would you use:  
 1) by elevator  
 2) by stairs  
 3) to balcony  
 4) to roof
10. If you remained in your apartment during the fire, what action would you take to reduce further danger?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

11. Have you had any fire drills in your building? If so, please indicate how many. (If no fire drills, put 0): \_\_\_\_\_
12. Has there ever been a fire in the building where you live or in a previous high-rise that you lived in? \_\_\_\_\_ Yes \_\_\_\_\_ No
13. Please check the column marked yes or no to indicate whether your high-rise building has the following safety devices in it:

	Yes	No
Fire alarms on every floor	_____	_____
Fire extinguishers on every floor	_____	_____
Fire hoses on every floor	_____	_____
Sprinklers	_____	_____
Voice communication (P.A. system)	_____	_____
Smoke detectors	_____	_____

14. Do you think that there is a greater danger to you as a result of fire in a high-rise building (such as the one you presently live in) than in a single family dwelling such as a house? (Please circle *one* point):

_____	_____	_____	_____	_____
much more dangerous in high-rise	somewhat more dangerous	no difference	somewhat less dangerous	much less dangerous in high-rise

15. Do you think there is a greater danger to you as a result of fire in a high-rise building than in a low-rise building (duplex, fourplex, sixplex)?

_____	_____	_____	_____	_____
much more dangerous in high-rise	somewhat more dangerous	no difference	somewhat less dangerous	much less dangerous in high-rise

16. Would you like to have more fire safety devices installed in your building (sprinklers, voice communication, door closers, etc.)?

\_\_\_\_\_ Yes (go to question 17)  
 \_\_\_\_\_ No (go to question 19)

17. If "YES" in question 16: Would you be willing to have your rent increased to help defray the cost of installing fire safety devices?

\_\_\_\_\_ Yes (go to question 18)  
 \_\_\_\_\_ No (go to question 19)

18. If "YES" in question 17: What percentage of your rent would you be willing to have increased? \_\_\_\_\_ %
19. Are you afraid of the possibility of fires in your building?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
20. In terms of fire safety, do you feel that your building is safe to live in?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
21. Do you feel that you know enough about the action you should take in the event of a fire?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
22. When you first moved into your high-rise, did you receive any instruction or information on fire safety devices in your building or what procedure to follow in the event of a fire?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
23. Please indicate the number of years you have lived in high-rise buildings: \_\_\_\_\_
24. Have you received any leaflets, pamphlets or other information recently, pertaining to fire safety or highrise buildings?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

#### **BACKGROUND INFORMATION:**

What floor do you live on? \_\_\_\_\_

Age: \_\_\_\_\_

Sex: \_\_\_\_\_

If you have any further comments or suggestions, please feel free to write them in the space below.

## **2. Hotels: Highrise Questionnaire**

1. If the fire alarm went off in this hotel while you were still in your room, would you (circle one):
  - a) call the front desk to see whether there was a real fire and what action should be taken;
  - b) exit immediately by way of the elevator;
  - c) exit immediately by way of the stairs;
  - d) stay in the room until help arrived;
  - e) assume that it is a false alarm and ignore it.
2. If you decided to stay in your room during the course of the fire, what safety precautions would you take in your room?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Did you notice any instructions in your room on what to do in the event of a fire:  
\_\_\_\_\_ Yes \_\_\_\_\_ No (skip to question 5)
4. If yes above, did you read the information contained in the information pamphlet or notice behind the door concerning fire safety procedures?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

5. Are you concerned about the risk of fires in hotels? (please circle one point)
- |           |           |       |           |            |
|-----------|-----------|-------|-----------|------------|
| _____     | _____     | _____ | _____     | _____      |
| very      | somewhat  | not   | slightly  | not at all |
| concerned | concerned | sure  | concerned | concerned  |
6. Do you know where the fire exits are on your floor?  
 \_\_\_\_\_ Yes \_\_\_\_\_ No
7. Do you feel that you know enough about the action you should take in the event of a fire?  
 \_\_\_\_\_ Yes \_\_\_\_\_ No
8. How often do you stay in hotels on an annual basis?  
 \_\_\_\_\_ times a year
9. Does your stay in hotels usually involve business or pleasure?  
 \_\_\_\_\_ Business \_\_\_\_\_ Pleasure
10. Please indicate your floor number: \_\_\_\_\_
11. We would welcome any other comments or suggestions you may have. Please write them on the back of this page.

### 3. Questionnaire for Chief Fire Official

Name of Fire Department: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Chief Fire Official: \_\_\_\_\_

1. Do you interpret the Fire Code as requiring the owners of all highrise buildings, regardless of their date of construction, to prepare a fire safety plan as contemplated by the Fire Code?  
 \_\_\_\_\_ Yes \_\_\_\_\_ No

If no, could you please advise the buildings to which you believe this requirement of the Fire Code applies. (list below)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. What procedure, if any, is in place in your municipality to either ensure or promote the preparation and approval of fire safety plans as contemplated by the Fire Code?

(Of particular interest is whether the fire department is playing any role in this regard.)

3. If possible, advise of the approximate number (exact number if available) of buildings in your municipality which are considered to fall within the requirement to prepare a fire safety plan as contemplated by the Fire Code.  
 \_\_\_\_\_ buildings

Regardless of your ability to provide information as to the number of buildings referred to in item 3 above, would you please advise of the number of plans which have been submitted and/or accepted by you as contemplated by the Ontario Fire Code.

\_\_\_\_\_ plans submitted/accepted

4. Provide any additional information relating to the filing of fire safety plans which may assist the Commission in understanding the present state of compliance with the Fire Code.

#### **FIRE DRILLS**

5. Are there any procedures established for evacuation of tenants and/or occupants during fire drills in the following highrise buildings? If yes, please describe.
- |                            |           |          |
|----------------------------|-----------|----------|
| a) apartment buildings     | Yes _____ | No _____ |
| b) office buildings        | Yes _____ | No _____ |
| c) institutional buildings | Yes _____ | No _____ |
| d) hotels                  | Yes _____ | No _____ |

#### **4. Building Owners, Developers and Managers Questionnaire on Fire Safety Plans and Fire Drills**

1. Does your association interpret the Fire Code as requiring *all* highrise buildings, regardless of their date of construction, to prepare a fire safety plan as contemplated by the Fire Code?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
2. If your association interprets the Fire Code as *not* applying to all highrise buildings, to what highrise buildings does it apply? (list below)
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
3. What procedure, if any, has been put in place by your association to either ensure or promote the preparation and approval of fire safety plans by your members, as contemplated by the Ontario Fire Code?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
4. If possible, advise us of the approximate number (exact number if available) of the buildings owned by members of your association which are considered to fall within the requirements to prepare a fire safety plan as contemplated by the Ontario Fire Code.  
\_\_\_\_\_ buildings
5. Whether or not you are able to answer item 4 above, would you advise the number of fire safety plans which have been prepared and/or submitted by members of your association and the number of plans which have been accepted by the Chief Fire Official as defined in the Ontario Fire Code. (The "Chief Fire Official" includes the municipal Fire Chief in those municipalities where a fire department exists.)  
\_\_\_\_\_ plans prepared/submitted  
\_\_\_\_\_ plans accepted by Chief Fire Official
6. Provide any additional information relating to the filing of fire safety plans which may assist the Commission in understanding the present state of compliance with the Ontario Fire Code.

**B. FIRE DRILLS**

7. Does your association have any policy with respect to the degree of participation of tenants and/or occupants during fire drills? (If yes, please describe.)

Name of Association: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## Appendix B.5

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## Appendix B.6

### RESULTS OF RECOMMENDATIONS OF CORONERS' JURY INN ON THE PARK INQUEST 7 May, 1981

#### FIRE DEPARTMENT:

1. "We recommend that all fire departments should prepare a pre-fire plan for each hotel, which includes entrances, emergency exits, fire fighting equipment, exit stairwells, and an area for a central command post to be established in an emergency."

#### Response:

The Inquiry was advised that pre-fire plans are being prepared for hotels by fire departments in the larger centres. Some municipalities are developing computer programs for storage and retrieval of pre-fire plans. Chapter 12 contains a more detailed discussion of pre-fire plans. My Recommendations 12.3 and 12.4 deal specifically with pre-fire plans.

2. "We further recommend that radio communications equipment be improved and upgraded in order to achieve better communications in high-rise buildings generally and especially during emergency situations. Consideration might also be given to the availability of another radio channel to be used by fire fighters in emergencies."

#### Response:

The Ontario Association of Fire Chiefs has made recommendations regarding radio communications to the committee which is reviewing the *Fire Departments Act*. They recommend, "that at the very least the Province undertake a study to determine the adequacy of the present level of equipment in use, and consider earmarking grants to municipalities to insure the purchase of adequate equipment in the future." My Recommendation 12.5 deals specifically with radio channels for fire departments.

3. "It is also recommended that longer duration, light-weight masks be developed for firefighting purposes and that these masks become mandatory for use in Ontario."
4. "We further recommend that light-weight and safe apparel be developed for firefighting purposes."

#### Response:

The Inquiry was advised that there is presently a committee formed under the *Occupational Health and Safety Act* which is looking at the issues raised in the jury's Recommendations 3 and 4. A committee formed by the

National Research Council is examining the fire service in Canada, including equipment.

5. "Also, sufficient resuscitators should be taken into high-rise buildings when conducting search and rescue, in order to meet the immediate needs of the situation."

**Response:**

The Inquiry was advised that the use of resuscitators for search and rescue in any particular circumstance is a command decision. At the fire scene, the officer in charge must decide whether to initially do firefighting or in the alternative, to conduct search and rescue. The Inquiry was also advised that there is a resuscitator in every fire vehicle and that the ambulances which arrive will also have resuscitators.

6. "We further recommend that firefighting personnel be efficiently deployed in order to ensure that search and rescue is commenced as soon as possible after arrival."

**Response:**

The Inquiry was advised that the deployment of firefighting personnel is a general command decision which varies from situation to situation.

7. "We also recommend that all casualties be removed from contaminated areas immediately."

**Response:**

The Inquiry was advised that this is a standard firefighting procedure at the present time.

**REGULATORY AGENCIES:**

1. "We recommend that the Ontario Fire Code be enacted immediately and that it include provisions for upgrading present buildings where feasible and that the Code include our recommendations for hotel fire safety as stated hereinafter. We further recommend that this Code be revised on an ongoing basis."

**Response:**

The Ontario Fire Code was filed as Ontario Regulation 730/81. The issue of upgrading fire safety in existing buildings is being dealt with by the Part 9 Retrofit Task Group. In the case of hotels, proposed amendments to the *Hotel Fire Safety Act* include retrofit requirements. Retrofit is the subject matter of Chapter 10.

In terms of the OFC being revised on an ongoing basis, Roy Philippe advised the Inquiry that the OFM has a file of suggestions and comments relating to the OFC which are reviewed to assess the need for amendment. My Recommendation 2.3 deals with the regular re-publication of the Ontario Fire Code.

2. "We recommend that the Ontario Fire Marshal's Office be designated as the sole agency for all fire safety inspections and all fire safety training in the Province. This Agency should establish a specially trained unit for fire safety inspections in high-rises."



**Response:**

Chapters 2 and 12 discuss the legislation which governs fire safety inspections. Chapter 12 deals specifically with the training of the fire service. The Office of the Fire Marshal is now responsible for fire safety in all hotels regulated by the *Hotel Fire Safety Act*.

3. "We recommend that the Government of Ontario licence and certify all fire alarm personnel and companies which carry out tests of fire alarms."

**Response:**

This matter, and the licencing of other trades, is dealt with in Chapter 13. My Recommendation 13.9 deals with the licencing of persons that verify and maintain fire alarm systems.

4. "We further recommend that the Ontario Fire Marshal's Office should devise an approved fire alarm test procedure and maintenance plan which includes periodic testing of the entire system in all highrise buildings and hotels, tests the back-up system, and all bells, and alarm initiation devices, etc."

**Response:**

The owners of all highrise buildings are now required by the Ontario Fire Code to maintain and test fire alarm systems in accordance with recognized standards. Chapter 8 contains a discussion of fire alarm systems, including standards for their installation, testing, and maintenance. The *Hotel Fire Safety Act* is being amended to have similar provisions. My Recommendation 8.1 suggests a one time testing of all fire alarms that have not been verified using an acceptable standard.

5. "We recommend the community colleges, in conjunction with the Ontario Fire Marshal's Office and local fire departments develop and implement an approved fire safety course including evacuation procedures, for hotel employees throughout Ontario and that a designated number of employees be required to attend. We also recommend that fire safety procedures be included in the curriculum of hotel/motel management courses."

**Response:**

Training courses in fire safety have been developed for hotel employees through the Office of the Fire Marshal. These courses are being conducted at the present time and include instruction on the subject of evacuation procedures.

In terms of the recommendation that a designated number of employees be *required* to attend these courses, John Hess testified that he preferred to have these courses attended on a voluntary basis until such time as it appears that there is not an acceptable response to the courses. Evidence to this point is that there is a good response to these courses. This course, and the issue of designation of fire safety specialists in hotels, are discussed in detail in Chapter 4.

6. "We recommend that the Ontario Fire Marshal's Office review and approve emergency procedure and evacuation plans for all hotels."

**Response:**

The review and approval of emergency procedures and evacuation plans for all hotels is being done at the present time by provincial inspectors under the

*Hotel Fire Safety Act*. Chapter 4 contains a more detailed discussion regarding this matter.

## **HOTEL RECOMMENDATIONS:**

1. "We recommend that the fire department be notified immediately upon activation of the fire alarm."

### **Response:**

The instruction to notify the fire department immediately upon activation of the fire alarm is part of the training program offered to hotel employees by the Office of the Fire Marshal. Failure to notify the fire department is an offence under the *Hotel Fire Safety Act*.

2. "We recommend that all hotels be wired to a central alarm agency where feasible.

### **Response:**

My Recommendation 3.3 suggests direct connections for all highrise buildings unless the owner can provide 24 hour per day on-site supervision.

3. "We further recommend that hotel staff in conjunction with local police and fire department embark upon a program to eliminate malicious false alarms."

### **Response:**

False alarms are discussed in Chapter 8.

4. "Under no circumstances should hotel staff silence alarms."

### **Response:**

My Recommendation 8.3 deals with this matter. Instructions that fire alarms should not be silenced by hotel staff is included in instructions presently being offered to hotel staff by the Office of the Fire Marshal. It is an offence under the *Hotel Fire Safety Act* to silence a fire alarm under certain circumstances.

5. "Hotels of a certain capacity be required to have a person/s designated as a fire safety officer within the hotel. Such person to wear suitable identification, e.g. a badge. All hotel employees should be required to wear identification badges."

### **Response:**

Section 19(y) of the HFSA empowers the Lieutenant Governor in Council to pass a regulation requiring the designation of fire safety officers as contemplated by this recommendation. Mr. Hess advised the Inquiry that a regulation has not been passed at this time because he wishes to have these safety officers appointed by the hotels on a voluntary basis. He testified that at the present time these appointments are being made voluntarily and that courses designed by the OFM for these "specialists" in highrise hotels have commenced.

In relation to the suitable identification of hotel employees, the course offered to hotel staff discusses the need to establish names or titles for responsible staff and to have them identified appropriately.

6. "We recommend that the hotel maintain an up-to-date simplified plan with pertinent details for use in emergencies and that all revisions thereto be communicated to the local fire department. We further recommend that the designated fire safety officer meet the fire department on arrival, communicate location of fire, provide guest list, all available master keys, the simplified plan and provide information re: exits, etc."

**Response:**

All of the subjects referred to in this recommendation should be dealt with in the fire safety plan which all hotels must prepare and have approved by the hotel inspector from the Office of the Fire Marshal. The inspector responsible for each hotel is instructed by Mr. Hess to liaise with the local fire departments, and discuss the results of their hotel inspections.

7. "Hotels should be required to provide guests upon registration, a set of procedures to be followed in case of fire and upon activation of the fire alarm system. We further recommend that hotel staff who accompany guests to their rooms inform them of the fire exits and emergency information on the back of the door and the aforementioned procedures."

**Response:**

For a discussion of public education, including the education of hotel guests, reference should be made to Chapter 13. Chapter 4 also deals with information for hotels guests, including the preparation of a pamphlet prepared by the Office of the Fire Marshal (Exhibit 292).

8. "All hotels should be required to prepare a check list containing every room in the hotel including storage and maintenance rooms and provide same to the fire safety inspector."

**Response:**

The Inquiry was advised that the Hotel Fire Safety Services Unit requires each hotel inspector, in the initial inspection of a hotel, to prepare drawings of the hotel which clearly identify all areas, including storage and maintenance rooms.

9. "Fire safety information to be posted in guest rooms should be on a recognizable sign, easily legible, exclusively relating to emergency procedures and should include the following information:
  - a) call fire department"

**Response:**

Hotel Fire Safety Services Unit has prepared signs for the back of hotel suite doors. They believe that the responsibility to call the fire department should fall on the hotel keeper, and that having individual hotel guests call the fire department could jam hotel switchboards.

9.
  - b) "location of nearest exit
  - c) location of second exit"

**Response:**

The *Hotel Fire Safety Act* requires that information be placed in hotel rooms to indicate the location of the exits, where, in the discretion of an inspector, such information is necessary. The Inquiry was advised that in a



hotel where there would be little confusion regarding the location of the exits, such information was not needed.

9. d) “instructions on what to do in the event one encounters smoke or fire when leaving, e.g., use alternative exit and if alternative exit cannot be reached, return to room and precautions to take to prevent smoke entering room.
- e) guests should be warned that in case of fire they may have to choose between evacuation or remaining in their rooms and using wet towels to seal cracks, vents, etc.
- f) emphasis should be placed on following the instructions of the firefighters on duty.
- g) the wording on such signs must be approved by the Ontario Fire Marshal’s Office.”

### **Response:**

These recommendations are implemented by the Hotel Fire Safety Services Unit through both the preparation of signs to be posted on inside of entrance doors to hotel suites, and the development of a fire safety pamphlet to be made available to hotel keepers for distribution to guests.

10. “Exit stairwells in addition to the requirements for exit lights, should be colour coded, clearly marked as stairs as well as marked with floor numbers at each level and these stairwells should lead directly to exit doors which are clearly marked as such on both sides. Such doors are not to be blocked from view from the outside by retaining walls or other such structures, trees, etc.”

### **Response:**

No action has been taken in relation to colour-coding of stairs, but the marking of stairwell doors on both sides is now provided for in Section 30(3) of the proposed amendments to the HFSA. My Recommendation 10.4 deals with this issue.

The issue of blocking exit doors from view from the exterior of the building is, in my opinion, a matter for pre-fire plans.

11. “We recommend the following installations in hotels:
  - a) sprinkler systems in all public areas, storage areas, electrical closets and service corridors.”

### **Response:**

The proposed amendments to the *Hotel Fire Safety Act* (Section 44) will require sprinklers to be retrofitted in certain areas of hotels. I have agreed with the principle of retrofitting sprinklers in hotels, and have recommended that the OBC be amended to require the installation of sprinklers in new construction of hotels as well.

11. b) “All stairwell doors should have latches in addition to door closers.”

### **Response:**

My Recommendation 10.3 deals with this issue. The proposed amendments to the *Hotel Fire Safety Act* will require all fire doors to be self-closing and positive latching.

11. c) “A fire alarm system with circuitry resistant to high temperatures.”



**Response:**

Mr. Hess advised the Inquiry that, in his opinion, this was not a problem. He believes that the recommendation would be satisfied if the system was installed in accordance with the Electrical Code. In terms of new hotel construction, if the proposed amendments to the OBC (Exhibit 130) are passed, it will require the electrical conductors to the fire alarm system to be protected from fire to insure continued operation for a period of at least one hour.

11. d) "fire fighter communication system."

**Response:**

The evidence from the fire service itself indicated that two-way communication systems in highrise buildings are not used frequently during fire situations. The Inquiry was advised that firefighters rely on portable two-way communication equipment and prefer to have that system upgraded.

11. e) "pressurized stairwells, elevator shafts and service shafts."

**Response:**

Pressurization of the stairwells referred to in this recommendation is directed primarily to controlling the movement of smoke. Installing these systems on a retrofit basis is extremely difficult. New highrise hotels are required to have smoke control, and they are given the option of providing for smoke control in any manner which will satisfy the Chief Building Official. Sprinklers have an effect on the amount of smoke which is produced. As discussed, sprinklers have been recommended by me in certain portions of both existing hotels and new hotels. (Recommendations 4.3 and 7.5). If those recommendations are implemented, there will be additional "smoke control" in highrise hotels (if the fire takes place in a sprinklered area).

11. f) "where applicable, smoke barrier doors at elevator lobbies on each level."

**Response:**

Proposed change to Section 11 of the HFSA requires the installation of smoke barrier doors, the placement of which is subject to the approval of the hotel inspector.

11. g) "a public address system for emergency instructions."

**Response:**

In Recommendation 10.7, I have recommended that one-way voice communication be retrofitted in all hotels over 12 storeys in height.

11. h) "elevators called to main level with doors closed on activation of fire alarm."

**Response:**

In this report, I have recommended that in highrise buildings which do not have any means of recalling elevators in a fire emergency, such a feature must be retrofitted. I have also recommended that the OBC, which will apply to the construction of new hotels, be amended to provide for the *automatic* recall of all elevators in addition to the present requirement for manual recall. (Recommendations 8.15 and 8.16)

The OBC provides that elevator doors equipped with photo-electric eyes must close after they have been open for 10 seconds.

11. i) "automatic shut-off of ventilation system as required by regulation."

**Response:**

Section 42 of the HFSA Regulations requires recirculating air handling systems to shut down automatically on the sounding of a fire alarm.

11. j) "fire retardant decorating materials: furnishings, carpets, etc., in accordance with standards to be developed to limit emission of toxic gases."

**Response:**

The *Hotel Fire Safety Act* regulates interior finishes at the present time. For discussion relating to the regulation of furnishings, and other building contents, reference should be made to Chapter 11.

12. "Switchboard operators should have explicit instructions on what to tell guests in the event of fire."

**Response:**

This should be the subject matter of instruction given to hotel employees in the course offered by the Ontario Fire Marshal. The procedure to be followed by switchboard operators in fire emergencies should also be part of the hotel fire safety plan.

13. "Designated hotel staff should participate in periodic fire drills."

**Response:**

This is a requirement of the proposed amendments to the HFSA, and is presently part of the training course offered to hotel staff by the Ontario Fire Marshal. It is also a mandatory provision in fire safety plans for hotels.

14. "Hotel staff should be made aware of the need to retain fire safety precautionary measures when redecorating, for example when wallpapering around fire bells to ensure the paste does not interfere with the bell. Also, fire proof vacuum cleaner bags might be considered."

**Response:**

The general fire safety training given to hotel employees should include instruction regarding the importance of not interfering with the operation of fire alarm bells or other fire safety equipment during redecorating. This emphasizes the value of learning *reasons* for rules.

**GENERAL RECOMMENDATIONS:**

1. "All hotels must comply with existing building and fire safety regulations and be retrofitted with smoke or heat detectors in sleeping areas."

**Response:**

Section 56(2) & (3) of the proposed amendments to the HFSA Regulations deal with the retrofitting of smoke or heat detectors. Those proposed amendments *do not* make smoke detectors in the hotel suite mandatory in all cases.

In Recommendation 10.6, I have, however, recommended that all hotel suites should contain a smoke detector.

2. "All ventilation shafts should be constructed of material with the appropriate fire resistant rating, and enclosed with fire resistant material and where such shafts have penetrations these should be protected with fire resistant material as well."

**Response:**

Section 12 of the HFSA Regulations requires rubbish chutes, linen chutes to be retrofitted with sprinkler systems in hotels over 3 storeys.

3. "Regulatory agencies must ensure tighter control by fire safety personnel during construction of hotels and/or highrises."

**Response:**

For discussion of inspection during construction of hotels, and other highrises, reference should be made to Chapters 2 and 13. Plans for new hotels are reviewed by the Consulting Services Unit of the Office of the Fire Marshal for compliance with fire safety regulations.

4. "New buildings should be constructed with fire breaks on exterior walls, and/or balconies. The safety of guests or occupants should be of prime importance in the design, planning, construction, maintenance and operation of hotels and highrises. In new construction stairwells should not be adjacent to the elevator shafts."

**Response:**

I do not understand what is meant by "fire breaks on exterior walls" and therefore cannot advise whether this matter was discussed during the Inquiry.

In relation to the recommendation regarding new construction of stairwells not being adjacent to the elevator shaft, this is an area which should be studied along with other matters related to egress, as I have recommended in this report (Recommendation 15.23). Mr. Jake Pauls, a leading expert on the movement of people and egress facilities, indicated that the location of stairwells remote from elevator shafts may *not* be the most appropriate location for exit stairwells, and could form the subject matter of research.

5. "All building renovations and/or changes in original construction must be approved by the appropriate agency or agencies, and must be constructed with the appropriate fire resistant materials."

**Response:**

Building renovations and original construction usually constitute "the work of construction" as defined in the OBC. In those circumstances, a building permit is required and the construction would be inspected by the local building official.

6. "The provincial and/or federal government should encourage research in fire safety protection."

**Response:**

This report contains numerous recommendations which, if implemented, will necessitate research in fire safety protection.

7. "Hotels and other highrise buildings must not erect walls or other structures which would prevent access to an exit stairwell from a corridor."

**Response:**

Code provisions regarding exit stairwells prohibit obstructing access to them.



# **PART C: COLLECTION OF RECOMMENDATIONS**

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## **Chapter 1**

- 1.1 The definition of highrise buildings contained in Sentence 3.2.6.1(1) of the Ontario Building Code should be retained. However consideration should be given by building code authorities to eliminating the references to “between grade and floor level” and “above grade”.
- 1.2 Agencies which keep fire records should use the same definition of “highrise buildings”.
- 1.3 The Office of the Fire Marshal should maintain a catalogue of all highrise buildings in Ontario.
- 1.4 Fire Occurrence Reports should include a description of the exact location of and the condition of the sprinkler system and information describing the proximity of sprinklers to the area of fire origin.
- 1.5 Fire Occurrence Reports should include, along with the age and condition of the affected building, a rough categorization of the building code under which it was constructed.
- 1.6 The Office of the Fire Marshal with the cooperation of the Chief Fire Officials should assist in collecting data for further study of human behaviour in fire occurrences for the purpose of testing assumptions made about human behaviour.
- 1.7 Owners and occupants of highrise buildings as part of a 3 year test program should be required to report to the local fire department all fires that cause more than \$500 damage, if not reported as presently required by an insurer or a Fire Department, together with the causes of the fire, if known, and the method of suppression.
- 1.8 The Ontario Fire Marshal should collaborate fully with other Canadian Fire Marshals and Fire Commissioners in the implementation of a national fire statistical system, and process the data promptly for use while current.

## **Chapter 2**

- 2.1 The Ontario Building Code should be republished every five years to match the National Building Code publication cycle.
- 2.2 The Province of Ontario should adopt the proposed amendments to the Ontario Building Code (Exhibit 130) expeditiously with the few exceptions referred to herein.\*
- 2.3 The Ontario Fire Code should be republished every five years to match the National Fire Code publication cycle.
- 2.4 The government of Ontario should expeditiously complete the task of consolidating all legislation respecting the construction or demolition of buildings into the Ontario Building Code, and all legislation respecting fire safety standards for buildings and other structures and premises into the Ontario Fire Code.

\*The amendments to the OBC were filed with the Regulations Committee on September 16, 1983 as Regulation 583/83.

- 2.5 Retrofitting of existing buildings for life and fire safety should be governed by provincial legislation only.
- 2.6 Until Part 9 of the Ontario Fire Code, which will contain the retrofit regulations, is in effect, Section 18(2) of the *Fire Marshals Act* should be used to order necessary fire and life safety installations by way of retrofit.
- 2.7 Upon the enactment of Part 9 of the Ontario Fire Code, Section 18(2) of the *Fire Marshals Act* should be amended to restrict its use to emergency situations only.
- 2.8 Increased funding should be provided to ensure proper inspection by Ontario Building Code and Ontario Fire Code inspectors of all highrise buildings.
- 2.9 The *Building Code Act* should be amended so that the inspector's power under Section 10 is clearly restricted to unsafe conditions of a structural nature, and that orders may be made in relation to vacant buildings and to all buildings regardless of their date of construction.
- 2.10 All interior finish products installed in a building which are required to have a flame-spread rating or a smoke developed classification should bear an identifying mark or symbol confirming that the product has the required rating or classification.
- 2.11 The Ontario Fire Code should be more actively enforced, and the courts should impose substantially increased penalties for breaches of the Ontario Fire Code and upon convictions for *Criminal Code* offences involving fire safety matters.
- 2.12 Chief Fire Officials should be required to maintain a record of convictions and fines for breaches of the Ontario Fire Code, and should advise the media, and particularly relevant trade and industry publications, of such convictions and fines.
- 2.13 Section 24(4) of the *Building Code Act* should be amended to provide that the limitation period contained therein will run not from the time of the actual breach, but from the date the breach is discovered.
- 2.14 There should be a Standing Advisory Committee on the Ontario Building Code.
- 2.15 There should be user representation on code development committees where there is an appropriate organization that represents a cross-section of user opinion.
- 2.16 The Building Code Commission and the Fire Code Commission should be separate bodies, but have some joint membership.

### Chapter 3

- 3.1 Every highrise building should have full-time, on-site supervisory staff.
- 3.2 Where the local fire department assumes the responsibility of supervisory staff, the costs incurred by the municipalities should be recoverable from the building owner.
- 3.3 If any highrise building does not have in-house staff present on a twenty-four hour per day basis, the fire alarm system should be provided with a direct connection to the local fire department, or to a central station, on a retrofit basis.

- 3.4 All exemptions from the provisions of Subsection 3.2.6 of the Ontario Building Code granted for apartment buildings should be eliminated.

#### Chapter 4

- 4.1 The *Hotel Fire Safety Act* should continue as a separate Act regarding fire safety, but should be consolidated with the Ontario Fire Code when Part 9 of the Ontario Fire Code contains retrofit provisions regarding hotels.
- 4.2 The Ontario Building Code should be the only legislation governing construction of hotels and Section 3 of the *Hotel Fire Safety Act* should be amended accordingly.
- 4.3 The proposed amendments to the *Hotel Fire Safety Act* should be made with the few exceptions referred to herein.
- 4.4 The proposed amendment of the definition of “hotel” should be enacted.
- 4.5 The *Hotel Fire Safety Act* should be amended to permit the Fire Marshal in conjunction with the Chief Building Official, to order the relocation or removal of manual pull stations where, in their discretion, such action is necessary to deal adequately with any high incidence of false alarms in a hotel.

#### Chapter 7

- 7.1 The exemption granted for apartment buildings in Sentence 3.2.6.2(10) of the Ontario Building Code from the requirement to have smoke controlled between floors and in exit stairwells should be removed.
- 7.2 The Ontario Building Code should identify smoke control measures that have a high degree of reliability for specific types of typical highrise buildings.
- 7.3 The Ontario Building Code should accept the use of exterior balconies at any height as an alternative to providing smoke control. Clause 3.2.6.2(8)(a) of the Ontario Building Code, setting out a height restriction of 120 feet in regard to the use of balconies as an alternative to providing smoke control should be deleted.
- 7.4 A determination should be made of the acceptability of enclosed balconies as “exterior balconies” for the purposes of Ontario Building Code Clause 3.2.6.2(8)(a).
- 7.5 The Ontario Building Code should require all highrise buildings to be sprinklered throughout except for the residential areas (including halls and corridors) of Group C occupancy buildings, and office or mercantile spaces in those Group C occupancy buildings where the floor area of those spaces is divided into fire compartments not exceeding a specified size. The area chosen should not exceed 7500 square feet.
- 7.6 The Ontario Building Code should be amended to provide that control valves for sprinkler systems should be equipped with a supervisory signal system with a direct connection to the fire department.

#### Chapter 8

- 8.1 In highrise buildings, all existing fire alarm systems that have not been verified under CAN 4-S537-82, its predecessor or an acceptable



manufacturer's installation test, should be subject to a one time test pursuant to CAN 4-S536-82, Parts 1, 2 and 3.

- 8.2 The appropriate code committee should consider amending the Ontario Building Code to provide that where a two-stage alarm is required, a general evacuation signal must sound in the initiated fire zone and a general alert throughout the remainder of the building.
- 8.3 Once activated, a fire alarm should not be turned off except by the Fire Department, or with their authorization.
- 8.4 The appropriate code committee should consider amending the Ontario Building Code to require that the activation of the trouble signal on the fire alarm control panel will cause a signal at or near the central alarm and control facility.
- 8.5 The meaning of the various patterns of sounds (temporal patterns) made by fire alarm systems should be uniform, regardless of whether the actual sound differs.
- 8.6 The Ontario Building Code should be amended to permit the Chief Building Official to approve reliable alternatives to manual pull stations as a means of activating fire alarm systems in those buildings that may experience high incidence of false alarms.
- 8.7 The Ontario Fire Code should be amended to permit the Chief Fire Official, in conjunction with the Chief Building Official, to order the relocation or removal of manual pull stations where, in their discretion, such action is necessary to deal adequately with a high incidence of false alarms in a building.
- 8.8 When a conviction for causing a false alarm contrary to the Criminal Code is entered, the court should impose substantial penalties including restitution orders for the cost of the fire department's unnecessary response.
- 8.9 The requirements for emergency power for elevators in the Ontario Building Code and *Elevating Devices Act* should be consistent; or, in the alternative, the legislation should clearly identify which requirement prevails.
- 8.10 The conflict between the *Elevating Devices Act* and the Ontario Building Code regarding sprinklers in elevator machine rooms should be resolved.
- 8.11 The Ontario Building Code should require the installation of smoke/heat sensors at the recall level in order to route elevators to an alternate floor in case of fire at the recall level.
- 8.12 Any existing vent in a highrise building or any vent to be installed in a new highrise building which has as its purpose the venting of any elevator shaft at the roof level should be closed and should not open automatically upon the activation of a fire alarm. All of these elevator vents must have the capability to be opened manually by the fire department and the additional capability to be opened by use of a remote device located at ground level, but only under the control and direction of the fire department.
- 8.13 The benefits, limitations or the usefulness of elevator shaft vents as an aid to smoke removal should be assessed.



- 8.14 The Ontario Building Code and the *Elevating Devices Act* should be made consistent regarding the requirement for elevator recall in an emergency situation.
- 8.15 All existing highrise buildings which do not have a firefighters' elevator as contemplated by the Ontario Building Code, should be required to have at least one elevator car equipped with a key-operated switch inside the car which will allow the firefighter to use that elevator independently of other elevators and to go only to a desired floor, and a key-operated switch at ground level to recall that elevator.
- 8.16 The Ontario Building Code should be amended to require automatic recall of elevators in addition to the present requirement for manual recall.
- 8.17 Further study should be undertaken to assess the feasibility of using elevators as a means of evacuation during a fire emergency.
- 8.18 In a building which is required to have emergency power for the elevators, the initial licence for the operation of an elevator should not be granted until the Director of the Elevating Devices Branch receives satisfactory proof that the emergency power system has been tested and found in compliance with CSA 282-1977, "Emergency Power Supply for Buildings".
- 8.19 The Electrical Safety Code and the Ontario Building Code should be consistent with regard to the life safety devices which may be serviced by a power supply separate from the primary source of power in a highrise building.
- 8.20 The conflict between the Electrical Safety Code and the Ontario Building Code regarding *when* a separate electrical service can be supplied from the *same* transformer as the primary source of power to the building should be resolved.
- 8.21 The appropriate authorities should investigate the necessity and feasibility of amending the Electrical Safety Code to require that busways for new construction be modified so that water entering the busway system cannot cause power failure.
- 8.22 Ontario Hydro should assess the use of electrical conductors outside of conduit and determine whether amendments to the Electrical Safety Code are warranted.

## **Chapter 9**

- 9.1 The Ontario Building Code should contain a provision for the commissioning of life safety systems for highrise buildings. The provision should list the elements considered necessary for proper commissioning, thereby creating a functional definition of the term "commissioning" similar to the manner in which "Fire Safety Plans" are described in Subsection 2.8.2 of the Ontario Fire Code.

## **Chapter 10**

- 10.1 In highrise residential buildings each entrance door to a room or suite should be equipped with a self-closing device.
- 10.2 In highrise residential buildings all entrance doors to rooms or suites should have a 20 minute fire protection rating. However, existing 1 3/4 inch thick solid core wood doors should be acceptable, and existing

solid wood frames having a minimum nominal thickness of 2 inches should be acceptable for a 20 minute door assembly.

- 10.3 In highrise buildings, all doors to exit stairwells should be equipped with a self-closing device and a latching device.
- 10.4 All highrise buildings should have clearly visible signs showing floor numbering on both sides of stairwell doors, identifying exit doors, and identifying re-entry doors where stairwell doors are locked from the inside. Signs regarding elevator use should also be installed.
- 10.5 In highrise residential buildings other than hotels, single station smoke alarms should be installed in each suite in accordance with the standard described in Sentence 3.2.4.7(1) of the Ontario Building Code.
- 10.6 In highrise hotels, single station smoke alarms of either the battery-operated or hard-wired type should be installed in each hotel room or suite.
- 10.7 One way voice communication should be installed in all highrise buildings. Except for institutions, this requirement should apply only to buildings more than twelve storeys in building height. In addition there should be an emergency power supply for voice communication.
- 10.8 All highrise buildings should have a fire alarm system.
- 10.9 All highrise buildings should have an emergency power supply for fire pumps and ancillary equipment, or should have a siamese connection for the standpipe and hose system.
- 10.10 In all highrise buildings, emergency lighting should be provided for all corridors and exits.
- 10.11 In all highrise buildings that have emergency generators, a manual start device for such generators should be located at grade, or near enough to grade that it will be easily accessible in an emergency situation.
- 10.12 The Ontario Building Code should be amended to reference CSA C282-1977.
- 10.13 Emergency generators which have not successfully passed the initial installation performance tests in CSA C282-1977, or an acceptable manufacturer's installation test should be subject to a one time test pursuant to the initial installation performance standard in CSA C282-1977.
- 10.14 Article 6.7.1.3 of the Ontario Fire Code should be amended to clearly require that the written record specified in CSA C282-1977 be maintained.
- 10.15 Sprinklers should be installed in all underground portions of highrise residential buildings, including the underground parking areas.
- 10.16 If an apartment building does not have balconies and does not otherwise comply with the requirements to control smoke contained in National Building Code Clauses 3.2.6.2(2)(3a) and (4) the corridors of the residential areas should be divided into at least two parts, with no more than one exit stairwell located in any one compartment.
- 10.17 The unproclaimed sections of the *Fire Marshals Act* giving inspectors the power to make orders requiring compliance with the Fire Code, and giving the persons affected by those orders various rights of appeal, should be proclaimed.

## **Chapter 11**

- 11.1 Research into the means of regulating the flammability of upholstered furniture should be intensified and the resources necessary for this work should be made available.
- 11.2 Research into the development of a “self-extinguishing cigarette” should be intensified and the resources necessary for this work should be made available.
- 11.3 Education should be directed towards reducing the incidence of the careless use of smoking materials.

## **Chapter 12**

- 12.1 The Province of Ontario should increase funding to the Office of the Fire Marshal to provide for additional staff, to increase its activities in education both for the public and for the fire service, and to increase its ability to investigate non-fatal, large loss fires, arson fires, and other fires of special interest.
- 12.2 There should be adequate fire protection for the citizens of Ontario commensurate with the needs of each municipality.
- 12.3 The Office of the Fire Marshal should develop a guideline for the assistance of fire departments in preparation of pre-fire plans.
- 12.4 Fire departments should develop pre-fire plans for all highrise buildings.
- 12.5 The Office of the Fire Marshal should assess the needs of local fire departments for additional radio channels, and should coordinate applications to the Federal Government for allocation of any necessary additional radio channels.
- 12.6 The Office of the Fire Marshal should further develop its method of monitoring advances in both technical research and firefighting procedures, and should continue to distribute the information to municipal fire department training officers.
- 12.7 There should be a stronger emphasis on fire prevention, as distinct from suppression, within the fire service.

## **Chapter 13**

- 13.1 The Office of the Fire Marshal should develop materials to be included in courses given to building superintendents at the community colleges, emphasizing the contents of the Ontario Fire Code, the reasons for and significance of regular maintenance, and the procedures to be followed in emergencies.
- 13.2 The owners of highrise apartment and office buildings should intensify their efforts to make formal training available to building staff by supporting the development of courses at the community college level, and encouraging staff to attend.
- 13.3 The Ministry of Colleges and Universities, together with representatives of the owners of highrise apartment and office buildings and others presently involved in training of building superintendents, should set a long-range goal for training, and the ultimate certification of building supervisory staff.



- 13.4 The Province of Ontario, through the Building Code Branch of the Ministry of Municipal Affairs and Housing should make funds available for the implementation of training for Building Code officials at the provincial level.
- 13.5 Municipalities should encourage and assist building officials to take advantage of any courses for their benefit, with a view to having staff capable of being certified building officials in the future.
- 13.6 The Association of Professional Engineers of Ontario and the Ontario Association of Architects should encourage universities to establish fire protection courses at the university level; and such courses should deal with both technical and social aspects of building design.
- 13.7 All those who construct, alter or renovate buildings or install services which cause breaches in fire separations should be made aware of the extreme danger to life resulting from their failure to comply with code requirements as to fire stopping.
- 13.8 It should be mandatory for persons installing or maintaining sprinkler systems to be licensed.
- 13.9 It should be mandatory for persons who maintain or verify fire alarm systems to be licensed.
- 13.10 The Office of the Fire Marshal should receive sufficient funds to implement a more active public education program.
- 13.11 A study should be conducted to identify methods of education regarding fire safety which will result in people recalling and applying the information received in a fire emergency.

#### **Chapter 14**

- 14.1 There should be an increased involvement of experts in human behaviour in the code writing process, and that involvement should be formalized in a manner similar to the procedure adopted for the NFPA Life Safety Code. In addition, there should be input into the preparation of guidelines for fire safety plans and educational material by social scientists.
- 14.2 The fact that occupants seek information from radio and television during fires should be brought to the attention of the Canadian Association of Broadcasters and the Radio and Television News Directors Association. Members of these associations should meet with the fire service and voluntarily modify their procedures *during* fire situations in light of what is being learned about human behaviour in fires.
- 14.3 Present code provisions should be assessed to determine if changes could be made which would increase the benefit to the handicapped without reducing the level of safety afforded to the able-bodied.
- 14.4 The Ontario Fire Marshal should contact the CNIB and request that organization's involvement in the preparation of fire safety pamphlets in braille and tape recorded information.

#### **Chapter 15**

- 15.1 Article 2.8.2.7 of the Ontario Fire Code which requires a minimum of one copy of the fire safety plan to be permanently posted and maintained on each floor area should be amended. The section should only



require the posting of emergency procedures to be used in case of fire including sounding the fire alarm, notifying the fire department, instructing occupants on procedures to be followed when the fire alarm sounds, and the procedures for evacuation of those in need of assistance.

- 15.2 The Ontario Fire Code should be amended to clarify the application of Article 2.8.1.1. It should unambiguously require all highrise buildings to have a fire safety plan regardless of their date of construction or whether they presently have a fire alarm system.
- 15.3 The Ontario Fire Code requirement that fire safety plans be prepared for all high buildings should be enforced.
- 15.4 Chief Fire Officials should make all reasonable efforts to ensure that the review and approval of fire safety plans which have been prepared by building owners and submitted to them for approval is given high priority.
- 15.5 Guidelines for the preparation of fire safety plans for all occupancies should be completed by the Office of the Fire Marshal as soon as possible, and be available for distribution to the appropriate building owners.
- 15.6 The Ontario Building Code should be amended to require a fire safety plan as a precondition of being granted an occupancy permit pursuant to Subsection 2.7.1 of the Ontario Building Code.  
Section 18a(3) of the *Fire Marshals Act* should be amended to allow the Ontario Fire Code to require a fire safety plan for buildings under construction.
- 15.7 The definition of the word “occupant” in the Ontario Fire Code should be amended to refer to any person, firm or corporation which occupies the building for any purpose.
- 15.8 The words “major tenant” should be defined in the Ontario Fire Code, and should include any person, firm or corporation having control over any portion of the building, including the persons therein.
- 15.9 Clauses 2.8.2.1(1)(c) and 2.8.3.1(1)(c) of the Ontario Fire Code should not be amended, thus retaining the reference to “occupants”.
- 15.10 A fire safety plan should include a reference to the organization of *major tenants* and the delegation of responsibility to them to carry out fire safety duties, and Sentences 2.8.2.1(1) and 2.8.3.1(1) of the Ontario Fire Code should be amended accordingly.
- 15.11 The Ministers and Deputy Ministers in each Ministry of the Provincial Government should be made aware of the requirements of the Ontario Fire Code, and should encourage participation by Ministry staff.
- 15.12 The onus should be on the building owner to include the procedure for conducting fire drills in the fire safety plan. The fire department would then deal with the procedure proposed by the owner when reviewing the fire safety plan submitted by the owner.
- 15.13 The Ontario Fire Code and the *Hotel Fire Safety Act* should be clarified to impose obligations on employers (major tenants) to cooperate with the owner and support efforts to conduct fire drills.
- 15.14 Clause 2.8.2.4(1)(a) of the Ontario Fire Code which requires the instruction of supervisory staff in the use of the voice communication system should be enforced.

- 15.15 A separate standard should be developed for the testing, inspection and maintenance of voice communication systems.
- 15.16 The written records required by the Ontario Fire Code to be kept by building owners should be requested and examined during inspections.
- 15.17 A standard form of record book or log book listing the *tests* required under the Ontario Fire Code, together with the frequency thereof should be provided for in the Ontario Fire Code.
- 15.18 The Ontario Fire Code should be amended to change the reference to non-ambulatory occupants in Sentence 2.8.2.4(1) to "those in need of assistance."
- 15.19 Buildings owners/managers of all highrise buildings and the handicapped occupants should ensure that a list of all handicapped occupants within the building with a description of their disability, and their location, be available for firefighters when they respond to a fire.
- 15.20 The locking of exit stairwell doors from the inside should be prohibited unless a building owner can convince the authority having jurisdiction that a specific floor must be secure, and that security cannot be provided by any reasonable means other than locking the exit stairwell doors.
- 15.21 Doors and hatches providing access to rooftops in highrise buildings should not be locked during fire emergencies.
- 15.22 A committee should be formed to study and make recommendations regarding the feasibility of integrating the use of helicopters into highrise fire rescue operations. Such a committee should include representatives from affected groups such as the fire service, police, military, helicopter operators and building owners.
- 15.23 The means of egress should be the subject matter of intensive study at the National Building Code level.
- 15.24 A performance standard for *filter-type* smoke masks should be developed, and in the interim the Hazardous Products Branch of the Department of Consumer and Corporate Affairs (Ottawa) should develop standard information which all manufacturers of filter-type smoke masks would be required to provide to consumers.
- 15.25 Escape devices for highrise buildings should be assessed by a committee composed of representatives of the Building Code Branch and the Ontario Fire Marshal.

## PART D: SUMMARY IN FRENCH

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### INTRODUCTION

L'enquête a été constituée suivant un arrêté en conseil daté du 30 juin 1982. Le 13 septembre 1982 avait lieu une séance préliminaire au cours de laquelle nous avons tracé les grandes lignes des procédures à suivre et avons étudié les demandes d'autorisation à participer à l'enquête. Nous avons autorisé à participer toutes les personnes qui en ont fait la demande. A mon avis, "l'objet de cette enquête présentait pour eux un intérêt direct et considérable", conformément aux exigences de la *Loi sur les enquêtes publiques*. Conformément à l'article 5 de cette loi, les personnes autorisées à participer ont eu, au cours de l'enquête, "l'occasion de témoigner et de sommer et d'interroger ou de contre-interroger des témoins personnellement ou par . . . avocat au sujet de preuves pertinentes à leur intérêt." Toutes les personnes qui ne demandaient pas la participation mais qui désiraient témoigner ou prendre la parole durant l'enquête ont été averties qu'elles pouvaient le faire.

Les audiences officielles ont débuté le 1er novembre 1982. Il y a eu 67 jours d'audiences y compris les observations finales qui se sont terminées le 6 juin 1983. Toute la documentation et tous les témoignages ont été réexaminés au moment de la rédaction du rapport final.

Le processus d'audience était entièrement public. Aucune audience à huis clos n'a été demandée, ni requise. Un effort délibéré a été fait pour fournir des renseignements et de la documentation à tous ceux qui en faisaient la demande, spécialement aux représentants des médias, qui ont assisté à un certain nombre d'audiences. Je tiens à les féliciter pour l'usage discret qu'ils ont fait de leurs appareils d'enregistrement.

Soixante-quinze personnes ont témoigné à l'enquête. Plusieurs de ces témoins étaient très compétents dans leur domaine. On peut juger de leur compétence en se référant à leur curriculum vitae contenu dans le Volume 2. Nous avons aussi reçu 93 dossiers écrits et accepté 316 pièces dont la liste se trouve dans le Volume 2. Trois documents ont été déposés après la clôture des audiences. Nous les avons inscrits comme étant les trois dernières pièces de façon à avoir une liste complète des matériaux que nous avons reçus.

Plusieurs des conclusions de l'enquête ont été fondées sur l'étude d'un certain nombre d'incendies dans les bâtiments de grande hauteur. Cette étude n'a pas eu comme seul avantage l'identification de problèmes particuliers. Grâce à l'audition de témoignages sur de réels incendies, j'ai été en mesure d'apprécier plus facilement les témoignages de plusieurs personnes qui ont traité des aspects techniques de la question.

Les recommandations contenues dans ce rapport doivent être examinées en ayant les quatre points suivants bien à l'esprit.

Premièrement, quelques-unes de ces recommandations auront peut-être été mises en vigueur avant la parution de ce rapport, ce qui est fort probable étant donné toute l'activité que l'on retrouve dans le domaine de la sécurité incendie dans les bâtiments de grande hauteur. L'enquête a revu et fait des recommandations au sujet des modifications proposées au Code du Bâtiment de l'Ontario, à la *Loi sur la sécurité-incendie dans les hôtels*, et à des articles de la *Loi sur les commissaires des incendies* qui ne sont pas encore promulguées. Les audiences



ont pris fin en juin 1983, et depuis ce temps quelques-unes de ces modifications sont entrées en vigueur.

Deuxièmement, quelques recommandations s'appliquent non seulement à la sécurité incendie dans les bâtiments de grande hauteur, mais aussi à la sécurité incendie en général.

Troisièmement, ce rapport comprend de la documentation technique et scientifique au sujet de la sécurité incendie dans les bâtiments de grande hauteur. Cette documentation est incluse pour assurer une meilleure compréhension des différents problèmes. Quand cela s'avère nécessaire, quelques points techniques et scientifiques font l'objet d'une recommandation générale ou non détaillée qui peut inclure une suggestion pour une autre étude.

Enfin, il s'agissait d'une enquête provinciale. Quelques recommandations portent sur des questions que seule une loi ou action fédérale peut régler. Je ne crois pas qu'il soit opportun ni indiqué de faire des recommandations particulières proposant des modifications aux lois fédérales. Par contre, j'espère que le fait de signaler ces problèmes occasionnera un dialogue approprié et vigoureux entre, d'une part, le gouvernement provincial et le public, y compris les services d'incendie et, d'autre part, le gouvernement fédéral.

Ce rapport comprend quatre parties fondamentales: les chapitres 1 et 2 font état de façon détaillée des difficultés issues du mandat de l'enquête et de la législation. Les chapitres 3 à 6 contiennent une description d'un certain nombre d'incendies qui ont eu lieu dans quatre genres de bâtiments de grande hauteur: logements, hôtels, bureaux et institutions.

Du chapitre 7 au chapitre 10, il est principalement question des installations et du matériel qui se trouvent à l'intérieur des bâtiments de grande hauteur. Dans les chapitres de 11 à 15, l'accent est mis sur les aspects humains de la sécurité incendie. Bien que je reconnaisse l'importance des installations et du matériel, je crois que la compréhension de l'aspect humain demeure essentielle à l'amélioration de la protection des vies humaines.

Le lecteur trouvera dans le Volume 2 des renseignements qui lui permettront d'examiner les matériaux étudiés par l'enquête et il sera ainsi à même d'apprécier toute la portée des audiences. Nous espérons que ces renseignements aideront aussi ceux qui veulent étudier la question plus à fond.

## **RECUEIL DES RECOMMANDATIONS**

### **Chapitre 1**

- 1.1 La définition des bâtiments de grande hauteur citée au paragraphe 3.2.6.1(1) du Code du bâtiment de l'Ontario devrait être retenue. Toutefois, les responsables du Code du bâtiment devraient considérer l'élimination des mentions "entre le niveau moyen du sol et le niveau du plancher" et "au-dessus du niveau moyen du sol".
- 1.2 Les bureaux qui tiennent les registres des incendies devraient tous utiliser la même définition des "bâtiments de grande hauteur".
- 1.3 Le bureau du commissaire des incendies devrait tenir une liste de tous les bâtiments de grande hauteur situés en Ontario.
- 1.4 Les rapports d'incendies devraient contenir une description de la situation exacte et de l'état du réseau d'extincteurs automatiques à eau, ainsi



que des informations décrivant la proximité des extincteurs de l'origine de l'incendie.

- 1.5 Les rapports d'incendie devraient contenir l'âge et l'état du bâtiment dont il est question ainsi qu'un classement sommaire selon les catégories du Code du bâtiment en vigueur au moment de sa construction.
- 1.6 Le bureau du commissaire des incendies, avec la collaboration des responsables des services d'incendie devrait aider à recueillir des informations pour une étude plus poussée du comportement humain lors d'un incendie et ce, dans le but de vérifier les hypothèses émises à ce sujet.
- 1.7 En accord avec un programme pilote de 3 ans, les propriétaires et locataires de bâtiments de grande hauteur devraient être obligés d'aviser le service d'incendie local de tous les incendies causant plus de \$500.00 de dommages, en décrivant si possible les causes et la méthode d'extinction de l'incendie, s'ils n'ont pas été rapportés par un assureur ou un employé du Service d'incendie tel qu'exigé actuellement.
- 1.8 Le commissaire des incendies de l'Ontario devrait offrir son entière collaboration à d'autres commissaires et enquêteurs des incendies du Canada afin qu'ils réalisent ensemble un programme national de statistiques des incendies. Il devrait traiter les données rapidement afin qu'elles puissent être utilisées alors qu'elles sont encore actuelles.

## Chapitre 2

- 2.1 Le Code du bâtiment de l'Ontario devrait être réédité suivant le cycle de publication du Code national du bâtiment, soit tous les cinq ans.
- 2.2 La province de l'Ontario devrait adopter de façon expéditive les modifications proposées au Code du bâtiment de l'Ontario (Pièce 130), avec les quelques exceptions mentionnées.
- 2.3 Le Code de prévention des incendies de l'Ontario devrait être réédité suivant le cycle de publication du Code national de prévention des incendies, soit tous les cinq ans.
- 2.4 Le gouvernement de l'Ontario devrait de façon expéditive, compléter la tâche de refonte dans le Code du bâtiment de l'Ontario de toutes les lois concernant la construction et la démolition des bâtiments, ainsi que la refonte dans le Code de prévention des incendies de l'Ontario de toutes les lois concernant les normes de sécurité incendie pour les bâtiments et autres édifices et locaux.
- 2.5 La modification des bâtiments en vue de la sécurité incendie et la protection des personnes devrait être du ressort de la législation provinciale seulement.
- 2.6 Jusqu'au moment où entrera en vigueur la partie 9 du Code de prévention des incendies de l'Ontario qui contiendra les règlements ayant trait à la modification, on devrait avoir recours à l'article 18(2) de la *Loi sur les commissaires des incendies* pour ordonner des installations nécessaires à la protection des personnes et la prévention des incendies par voie de modification.

\* Les modifications au Code du bâtiment de l'Ontario ont été déposées auprès du comité sur les règlements le 16 septembre 1983, et portent le numéro Règlement 583/83.

- 2.7 Quand la partie 9 du Code de prévention des incendies de l'Ontario sera promulguée, l'article 18(2) de la *Loi sur les commissaires des incendies* devrait être modifié de façon à limiter son utilisation aux cas d'urgence seulement.
- 2.8 Il devrait y avoir plus de fonds disponibles pour que tous les bâtiments de grande hauteur puissent être inspectés par les inspecteurs du Code du bâtiment de l'Ontario et du Code de prévention des incendies de l'Ontario.
- 2.9 La *Loi sur le Code du bâtiment* devrait être modifiée pour qu'à l'article 10 il soit établi que le pouvoir de l'inspecteur se limite clairement aux conditions dangereuses des structures. La loi devrait aussi prévoir l'émission d'ordonnances au sujet des bâtiments inoccupés et de tous les bâtiments sans distinction quant à la date de leur construction.
- 2.10 Dans un bâtiment, tous les produits de revêtement intérieur de finition qui doivent avoir un indice de propagation de la flamme ou un indice de dégagement des fumées, devraient porter une marque ou un symbole d'identification qui confirme que le produit porte l'indice exigé.
- 2.11 Il faudrait faire respecter plus rigoureusement le Code de prévention des incendies de l'Ontario, et les tribunaux devraient imposer des peines considérablement plus élevées pour les infractions au Code de prévention des incendies de l'Ontario et pour les condamnations pour des infractions au *Code criminel* qui touchent à des questions de sécurité incendie.
- 2.12 Les responsables des services d'incendie devraient être obligés de tenir une liste des condamnations et des amendes pour infractions au Code de prévention des incendies de l'Ontario, et ils devraient avertir les représentants des médias et des publications industrielles pertinentes de ce genre de condamnations et d'amendes.
- 2.13 L'article 24(4) de la *Loi sur le Code du bâtiment* devrait être modifié afin de stipuler que le délai de prescription qu'il contient ne débute pas au moment où l'infraction est commise mais plutôt à la date à laquelle elle est découverte.
- 2.14 Un comité consultatif permanent sur le Code du bâtiment de l'Ontario devrait être formé.
- 2.15 Il devrait y avoir représentation des usagers dans les comités sur l'élaboration du Code là où il y a une organisation appropriée qui représente un échantillon des opinions des usagers.
- 2.16 La Commission sur le code du bâtiment et la Commission sur le code de prévention des incendies devraient constituer deux entités séparées, mais elles devraient avoir quelques membres conjoints.

### Chapitre 3

- 3.1 Du personnel de surveillance devrait être présent en permanence sur les lieux dans tous les bâtiments de grande hauteur.
- 3.2 Là où le service public des incendies assume la responsabilité de personnel de surveillance, les frais encourus par les municipalités devraient être remboursés par le propriétaire du bâtiment.
- 3.3 Dans tout bâtiment de grande hauteur où il n'y a pas de personnel de surveillance sur les lieux vingt-quatre heures par jour, le réseau avertisseur d'incendie devrait être muni d'une ligne de communication directe

avec le service d'incendie local, par voie de modification, ou avec le poste central.

- 3.4 Il ne devrait plus y avoir d'exemptions accordées aux dispositions du paragraphe 3.2.6 du Code du bâtiment de l'Ontario pour des bâtiments à logements.

#### Chapitre 4

- 4.1 La *Loi sur la sécurité incendie dans les hôtels* devrait demeurer une loi distincte en ce qui concerne la sécurité incendie mais devrait être refondue avec le Code de prévention des incendies de l'Ontario lorsque la Partie 9 de ce code contiendra des dispositions au sujet des modifications faites dans les hôtels.
- 4.2 Le Code du bâtiment de l'Ontario devrait être la seule législation réglementant la construction d'hôtels et l'article 3 de la *Loi sur la sécurité incendie dans les hôtels* devrait être modifié en conséquence.
- 4.3 Les modifications proposées à la *Loi sur la sécurité incendie dans les hôtels* devraient être entérinées avec les quelques réserves dont il est fait mention dans ce chapitre.
- 4.4 La modification proposée pour la définition d' "hôtel" devrait être approuvée.
- 4.5 La *Loi sur la sécurité-incendie dans les hôtels* devrait être modifiée de façon à permettre au commissaire des incendies, conjointement avec le chef du service du bâtiment, de demander qu'un avertisseur manuel d'incendie soit déplacé ou retiré là où, selon eux, il est nécessaire de faire ce changement pour remédier adéquatement à un problème de fréquence élevée des fausses alertes dans un hôtel.

#### Chapitre 7

- 7.1 L'exemption accordée pour les bâtiments à logements contenue au paragraphe 3.2.6.2(8) (a) du Code du bâtiment de l'Ontario, qui stipule qu'il n'est pas nécessaire de contenir la fumée entre les étages et dans les cages d'escalier d'issue, devrait être retirée.
- 7.2 Le Code du bâtiment de l'Ontario devrait préciser les mesures de contrôle des fumées qui sont d'une grande fiabilité pour des genres typiques de bâtiments de grande hauteur.
- 7.3 Le Code du bâtiment de l'Ontario devrait permettre l'usage de balcons extérieurs à n'importe quelle hauteur comme solution de rechange à un système de contrôle des fumées. Le paragraphe 3.2.6.2(8) (a) du Code du bâtiment de l'Ontario qui limite aux bâtiments de moins de 120 pieds de hauteur l'utilisation de balcons extérieurs comme solution de rechange à un système de contrôle des fumées devrait être rayé.
- 7.4 Une décision devrait être prise au sujet de l'acceptation de balcons cloisonnés comme "des balcons extérieurs" pour les fins du paragraphe 3.2.6.2(8) (a) du Code du bâtiment de l'Ontario.
- 7.5 Le Code du bâtiment de l'Ontario devrait stipuler que tous les bâtiments de grande hauteur doivent être entièrement protégés par des extincteurs automatiques à eau sauf pour les aires résidentielles (y compris les vestibules et les corridors) des bâtiments à usage classifié dans le groupe C. Il en va de même pour les bureaux ou espaces commerciaux dans les bâtiments d'usage classifié dans le groupe C où l'aire de plan-



cher est divisée en compartiments résistants au feu ne dépassant pas une grandeur donnée. L'aire choisie ne devrait pas dépasser 7500 pieds carrés.

- 7.6 Le Code du bâtiment de l'Ontario devrait être modifié de façon à stipuler que les robinets d'arrêt des réseaux d'extincteurs automatiques à eau doivent être équipés d'un dispositif de signal de dérangement relié au service d'incendie.

## Chapitre 8

- 8.1 Dans les bâtiments de grande hauteur, tous les réseaux avertisseurs d'incendie en usage qui n'ont pas été vérifiés conformément à la norme CAN 4-S537-82, son prédécesseur ou un autre test d'installation du manufacturier, devraient subir un seul et unique test en conformité avec les parties 1, 2 et 3 de la norme CAN 4-S537-82.
- 8.2 Le Comité sur les codes pertinent devrait songer à modifier le Code du bâtiment de l'Ontario, afin qu'il y soit stipulé que, là où est exigé un avertisseur à double signal, un signal d'évacuation générale doit retentir dans la zone où le feu a commencé et un signal d'alerte générale doit retentir dans tout le reste du bâtiment.
- 8.3 Seul un employé du service d'incendie, ou quelqu'un ayant reçu l'autorisation d'un de ces employés, devrait arrêter un avertisseur d'incendie une fois déclenché.
- 8.4 Le Comité sur les codes pertinent devrait songer à modifier le Code du bâtiment de l'Ontario afin qu'il soit exigé que le déclenchement du signal d'alarme sur le tableau de commande de l'avertisseur d'incendie envoie un signal au poste central d'alarme et de commande.
- 8.5 Le sens des différentes variations du son (variations temporelles) que rendent les réseaux avertisseurs d'incendie devrait être uniforme même si en réalité ce son est différent.
- 8.6 Le Code du bâtiment de l'Ontario devrait être modifié afin de permettre au chef du service du bâtiment d'approuver les solutions apportées pour remplacer les avertisseurs manuels comme moyen de déclencher les réseaux avertisseurs d'incendie dans les bâtiments où il y aurait un nombre élevé de fausses alertes.
- 8.7 Le Code de prévention des incendies de l'Ontario devrait être modifié pour permettre au responsable en chef du service d'incendie de concert avec le chef du service du bâtiment d'ordonner l'installation d'avertisseurs d'incendie manuels, lorsqu'ils considèrent qu'un tel changement est nécessaire pour remédier adéquatement à un problème de fréquence élevée de fausses alertes dans un bâtiment.
- 8.8 Quand une condamnation pour le déclenchement d'une fausse alerte contrairement au Code criminel est inscrite, le tribunal devrait imposer des peines sévères qui comprendraient des ordonnances de restitution pour les frais occasionnés par la sortie inutile du service d'incendie.
- 8.9 Il devait y avoir concordance entre les exigences du Code du bâtiment de l'Ontario et celles de la *Loi sur les appareils de levage* au sujet de l'alimentation électrique de secours pour les ascenseurs; ou, le cas échéant, il devrait être clairement indiqué dans la législation quelles exigences prévalent.



- 8.10 Le problème de concordance entre le Code du bâtiment et la *Loi sur les appareils de levage* au sujet des extincteurs automatiques à eau dans les constructions hors toit abritant la machinerie d'ascenseur devrait être résolu.
- 8.11 L'installations de détecteurs de fumée et de chaleur au niveau de correspondance devrait être exigée dans le Code du bâtiment de l'Ontario afin que les ascenseurs soient envoyés à un autre étage en cas de feu au niveau de correspondance.
- 8.12 Tout orifice de ventilation déjà existant dans un bâtiment de grande hauteur, ou tout orifice de ventilation à être installé dans un nouveau bâtiment de grande hauteur, qui sert à la ventilation de n'importe quelle gaine d'ascenseur au niveau du toit devrait être fermée et ne devrait pas s'ouvrir automatiquement à la suite du déclenchement d'un avertisseur d'incendie. Tous les orifices de ventilation dans ces ascenseurs doivent s'ouvrir manuellement ou à l'aide d'une commande à distance située au sol. Cependant seul un pompier doit pouvoir les ouvrir ou donner l'ordre de les ouvrir, que ce soit à la main ou à distance.
- 8.13 Les avantages, les limites et l'utilité des orifices de ventilation des gaines d'ascenseur comme moyen d'aider à l'écoulement de l'air enfumé devraient être étudiés.
- 8.14 Il faudrait faire concorder le Code du bâtiment de l'Ontario et la *Loi sur les appareils de levage* en ce qui a trait aux exigences pour le rappel de l'ascenseur en cas d'urgence.
- 8.15 Il devrait être exigé que tous les bâtiments de grande hauteur qui n'ont pas d'ascenseur à l'usage des pompiers tel que proposé dans le Code du bâtiment de l'Ontario aient au moins un ascenseur muni d'un interrupteur à clé situé à l'intérieur de la cabine d'ascenseur afin de permettre aux pompiers d'utiliser cet ascenseur indépendamment des autres ascenseurs et sans tenir compte des appels des étages. Il devrait aussi y avoir un interrupteur à clé au niveau du sol pour rappeler cet ascenseur.
- 8.16 Le Code du bâtiment de l'Ontario devrait être modifié afin d'exiger la présence d'un appareil automatique de rappel des ascenseurs, en plus de la présente exigence d'un rappel manuel.
- 8.17 Une étude devrait être menée pour évaluer la possibilité d'utiliser les ascenseurs comme moyen d'évacuation en cas d'incendie.
- 8.18 Dans un bâtiment où il doit y avoir une source d'alimentation électrique de secours pour les ascenseurs, le permis initial de mise en service pour les ascenseurs ne devrait pas être accordé avant qu'il n'ait été prouvé de façon satisfaisante au directeur de la *Division des appareils de levage* que la source d'alimentation a été vérifiée et qu'elle répond à toutes les exigences de la norme ACNOR 282-1977, "Source d'alimentation électrique de secours pour les bâtiments".
- 8.19 Il devrait y avoir concordance entre le Code de sécurité sur l'électricité et le Code du bâtiment de l'Ontario en ce qui a trait à l'alimentation des dispositifs de protection des personnes à une source électrique autre que de la source d'alimentation électrique première dans un bâtiment de grande hauteur.
- 8.20 Il faudrait faire concorder le Code de sécurité sur l'électricité et le Code du bâtiment de l'Ontario en ce qui concerne la question suivante: *quand* un service électrique indépendant peut-il être alimenté par le *même* transformateur que la source d'électricité première du bâtiment.

- 8.21 Les autorités compétentes devraient étudier s'il est nécessaire et s'il est possible de modifier le Code de sécurité sur l'électricité afin d'exiger que les boîtes de répartition pour les nouvelles constructions soient modifiées de sorte qu'une pénétration d'eau à l'intérieur de la boîte de répartition n'occasionne ni ne puisse occasionner de panne de courant.
- 8.22 L'Hydro Ontario devrait étudier l'utilisation de câblage électrique à l'extérieur du tube et déterminer si des modifications au Code de sécurité sur l'électricité sont justifiées.

## **Chapitre 9**

- 9.1 Le Code du bâtiment de l'Ontario devrait contenir une disposition au sujet de la "mise en service" des dispositifs de protection des personnes dans les bâtiments de grande hauteur. La disposition devrait contenir une liste des éléments considérés nécessaires à la "mise en service" et de ce fait créer une définition fonctionnelle de ce terme suivant la méthode employée pour décrire les "plans de sécurité incendie" à la sous-section 2.8.2 du Code de prévention des incendies de l'Ontario.

## **Chapitre 10**

- 10.1 Dans les bâtiments d'habitation de grande hauteur, chaque porte donnant dans une pièce ou une suite devrait être munie d'un dispositif de fermeture automatique.
- 10.2 Dans les bâtiments d'habitation de grande hauteur, toutes les portes ouvrant sur une pièce ou une suite devraient avoir un degré pare-flammes de 20 minutes. Toutefois, les portes en bois massif d'une épaisseur d'un pouce et trois quarts devraient être acceptables et les encadrements en bois massif qui ont au moins deux pouces d'épaisseur devraient être acceptables pour une porte de ce type.
- 10.3 Toutes les portes d'issue des cages d'escalier des bâtiments de grande hauteur devraient être munies d'un dispositif de fermeture automatique et d'un loquet.
- 10.4 Dans tous les bâtiments de grande hauteur, il devrait y avoir des panneaux indiquant le numéro des étages de chaque côté des portes de cages d'escalier, des panneaux indiquant les portes d'issue et identifiant les portes pour entrer dans le bâtiment là où les portes des cages d'escalier sont verrouillées de l'intérieur. Des panneaux expliquant le mode d'utilisation des ascenseurs devraient aussi être installés.
- 10.5 Dans les bâtiments d'habitation de grande hauteur autres que les hôtels, des avertisseurs de fumée indépendants devraient être installés dans chaque suite, conformément à la norme prescrite au paragraphe 3.2.4.7(1) du Code du bâtiment de l'Ontario.
- 10.6 Dans les hôtels de grande hauteur, des avertisseurs indépendants, soit à piles ou branchés directement à la source d'alimentation électrique, devraient être installés dans chaque chambre ou suite.
- 10.7 Un réseau de communication phonique à sens unique devrait être installé dans tous les bâtiments de grande hauteur. Sauf pour les institutions, cette exigence ne devrait s'appliquer qu'aux bâtiments de plus de douze étages de hauteur de bâtiment. Il devrait aussi y avoir une source d'alimentation électrique de secours qui, au besoin, alimenterait le réseau de communication phonique.

- 10.8 Il devrait y avoir un réseau avertisseur d'incendie dans tous les bâtiments de grande hauteur.
- 10.9 Dans tous les bâtiments de grande hauteur, il devrait y avoir une source d'alimentation électrique de secours pour les pompes à incendie et l'équipement auxiliaire. Si ce n'est pas le cas, il devrait y avoir un raccord-pompier pour le réseau de canalisation et de robinets armés d'incendie.
- 10.10 Dans tous les bâtiments de grande hauteur, il devrait y avoir de l'éclairage de sécurité dans tous les corridors et dans toutes les issues.
- 10.11 Dans tous les bâtiments de grande hauteur où il y a des génératrices de sécurité, il devrait y avoir un dispositif de mise en marche manuel situé au niveau moyen du sol, ou assez près de ce niveau pour que le dispositif soit d'accès facile dans un cas d'urgence.
- 10.12 Le Code du bâtiment de l'Ontario devrait être modifié et renvoyer à la norme ACNOR C282-1977.
- 10.13 Les génératrices qui n'ont pas été jugées acceptables suite aux épreuves de rendement des installations initiales de la norme ACNOR C282-1977 ou d'un manufacturier acceptable, devraient être soumises à une seule et unique épreuve conforme aux exigences de la norme de rendement des installations initiales de l'ACNOR C282-1977.
- 10.14 L'article 6.7.1.3 du Code de prévention des incendies de l'Ontario devrait être modifié afin qu'il y soit clairement stipulé que le rapport écrit mentionné dans la norme ACNOR C282-1977 doit être tenu à jour.
- 10.15 Des extincteurs automatiques à eau devraient être installés dans toutes les parties au-dessous du niveau du sol des bâtiments d'habitation de grande hauteur, y compris les aires de stationnement situées au-dessous du niveau du sol.
- 10.16 Si un bâtiment à logements n'a pas de balcons et n'est pas conforme aux exigences de contrôle de la fumée, tel que stipulé dans les alinéas 3.2.6.2(2) (3a) et (4) du Code national du bâtiment, les corridors des aires d'habitation devraient être divisés en au moins deux parties, et aucun compartiment ne devrait contenir plus d'une cage d'escalier d'issue.
- 10.17 Les sections non promulguées de la *Loi sur les commissaires d'incendie* qui donnent aux inspecteurs le pouvoir d'émettre des ordonnances exigeant conformité au Code de prévention des incendies, et qui donnent différents droits d'appel aux personnes touchées par ces ordonnances, devraient être promulguées.

## Chapitre 11

- 11.1 La recherche de moyens de régler le degré de résistance à l'inflammabilité des meubles rembourrés devrait être intensifiée et les ressources nécessaires à ce travail devraient être mises à la disposition des chercheurs.
- 11.2 La recherche en vue du développement "d'une cigarette qui s'éteint d'elle-même" devrait être intensifiée et les ressources nécessaires à ce travail devraient être mises à la disposition des chercheurs.
- 11.3 L'éducation devrait être orientée vers une réduction de la fréquence d'un emploi insouciant du matériel de fumeur.



## Chapitre 12

- 12.1 La province de l'Ontario devrait accroître les sommes accordées au Bureau du commissaire des incendies afin qu'il puisse engager du personnel supplémentaire, augmenter le nombre d'activités éducatives autant pour le public que pour le service d'incendie, et améliorer sa capacité d'enquêter sur les incendies qui occasionnent de grandes pertes matérielles mais aucune perte de vie humaine, les incendies criminels et autres incendies présentant un intérêt spécial.
- 12.2 Les citoyens de l'Ontario devraient être protégés contre les incendies de façon adéquate et proportionnée aux besoins de la municipalité.
- 12.3 Le Bureau du commissaire des incendies devrait élaborer une ligne d'action pour aider les services d'incendie dans la préparation de plans de prévention des incendies.
- 12.4 Les services d'incendie devraient élaborer des plans de prévention des incendies pour tous les bâtiments de grande hauteur.
- 12.5 Le Bureau du commissaire des incendies devrait déterminer les besoins des services locaux d'incendie concernant des canaux de radio supplémentaires et devrait coordonner des demandes au gouvernement fédéral pour l'allocation des canaux de radio supplémentaires.
- 12.6 Le Bureau du commissaire des incendies devrait développer plus à fond ses méthodes lui permettant de se tenir au courant des progrès réalisés tant au niveau de la recherche technique qu'au niveau des procédés de la lutte contre l'incendie. De même, il devrait continuer à transmettre les informations aux membres des services d'incendie municipaux responsables de l'entraînement.
- 12.7 À l'intérieur du service d'incendie, plus d'attention devrait être accordée à la prévention des incendies par opposition à leur extinction.

## Chapitre 13

- 13.1 Le Bureau du commissaire des incendies devrait élaborer de la documentation à inclure au contenu des cours offerts par les collèges communautaires aux responsables de l'entretien des bâtiments. L'accent sera mis sur le contenu du Code de prévention des incendies de l'Ontario, sur les raisons et l'importance d'un entretien régulier, ainsi que sur la marche à suivre en cas d'urgence.
- 13.2 Les propriétaires de bâtiments à logements et à bureaux de grande hauteur devraient redoubler leurs efforts pour qu'un entraînement formel soit offert au personnel du bâtiment. Pour ce faire, ils devraient appuyer tout projet d'élaboration de cours du niveau professionnel et encourager leur personnel à y assister.
- 13.3 Le ministère des Collèges et Universités, avec la collaboration de représentants des propriétaires des bâtiments à logements et à bureaux de grande hauteur et toute autre personne s'occupant de l'entraînement des responsables de l'entretien des bâtiments, devrait se fixer un but à longue échéance pour l'entraînement et l'ultime certification du personnel de surveillance des bâtiments.
- 13.4 La province de l'Ontario, par l'entremise de la Division du Code du bâtiment du ministère des Affaires municipales et du Logement, devrait libérer des fonds pour l'entraînement des fonctionnaires responsables du Code du bâtiment de la province.



- 13.5 Dans le but d'avoir à leur emploi du personnel détenteur d'un certificat de responsable des bâtiments, les municipalités devraient encourager et aider les responsables des bâtiments à profiter de tous les cours qui leur sont offerts.
- 13.6 L'Association of Professional Engineers of Ontario (Association des ingénieurs professionnels de l'Ontario) et l'Ontario Association of Architects (Association des architectes de l'Ontario) devraient encourager les universités à mettre sur pied des cours de niveau universitaire de protection contre les incendies. Ces cours devraient toucher tant à l'aspect technique qu'à l'aspect social de la conception des bâtiments.
- 13.7 Toute personne qui construit, modifie ou rénove des bâtiments ou pose des installations qui percent les séparations coupe-feu devrait être avertie qu'elle met des vies en grand danger parce qu'elle n'a pas respecté les exigences du Code concernant le contrôle de la propagation de l'incendie.
- 13.8 Les personnes qui font l'installation ou l'entretien des réseaux d'extincteurs automatiques à eau devraient obligatoirement être détentrices d'un permis.
- 13.9 Les personnes qui font l'entretien ou effectuent la vérification des réseaux avertisseurs d'incendie devraient obligatoirement être détentrices d'un permis.
- 13.10 Le Bureau du commissaire des incendies devrait recevoir plus de fonds de façon à pouvoir réaliser un programme d'éducation du public plus positif.
- 13.11 Une étude devrait être réalisée afin de déterminer des méthodes d'enseignement au sujet de la protection contre les incendies qui feraient en sorte que les gens se rappelleraient des directives reçues et les mettraient en pratique en cas d'urgence.

## Chapitre 14

- 14.1 Il devrait y avoir une participation plus forte des personnes spécialisées dans l'étude du comportement humain à l'élaboration d'un code. Leur participation devrait être établie de façon semblable à celle adoptée pour l'élaboration du NFPA Life Safety Code. De plus, des spécialistes des sciences humaines devraient participer à l'élaboration des lignes directrices des plans de sécurité incendie et des matériaux éducatifs.
- 14.2 L'Association canadienne des annonceurs (Canadian Association of Broadcasters) et l'Association des directeurs des nouvelles à la radio et à la télévision (Radio and Television News Directors Association) devraient être avisées du fait qu'au cours d'un incendie, les gens se tournent vers la radio et la télévision pour obtenir des informations. Les membres de ces associations devraient rencontrer les employés des services d'incendie et volontairement modifier leur façon de procéder pendant les incendies conformément aux connaissances qui sont acquises sur le comportement humain pendant un incendie.
- 14.3 L'évaluation des présentes dispositions des codes devrait être faite afin de déterminer s'il serait possible d'apporter des changements dont bénéficieraient les personnes handicapées sans pour autant réduire le niveau de protection accordé aux personnes non handicapées.

- 14.4 Le commissaire des incendies de l'Ontario devrait entrer en contact avec l'INCA et demander la participation de cet organisme à la préparation de brochures écrites en braille et de messages enregistrés sur bande concernant la sécurité incendie.

## Chapitre 15

- 15.1 L'article 2.8.2.7 du Code de prévention des incendies de l'Ontario qui stipule qu'au moins un exemplaire du plan de sécurité incendie doit être affiché en permanence à chaque aire de plancher devrait être modifié. Il devrait être exigé dans cet article seulement l'affichage des mesures d'urgence à appliquer en cas d'incendie, y compris sonner l'alarme, prévenir le service d'incendie, renseigner les occupants sur la marche à suivre quand l'alarme retentit, et l'affichage des mesures à suivre dans le cas de l'évacuation des occupants qui ont besoin d'assistance.
- 15.2 Le Code de prévention des incendies de l'Ontario devrait être modifié afin de clarifier l'application de l'article 2.8.1.1. Il devrait être exigé, de façon très claire qu'il doit y avoir un plan de sécurité incendie pour tous les bâtiments de grande hauteur, quelle que soit la date de leur construction, qu'ils soient équipés ou non d'un réseau avertisseur d'incendie.
- 15.3 L'exigence du Code de prévention des incendies qui stipule que des plans de sécurité incendie doivent être élaborés pour tous les hauts bâtiments devrait être appliquée.
- 15.4 Les chefs des services d'incendie devraient faire tous les efforts raisonnables pour s'assurer qu'ils donnent une priorité importante à la révision et l'acceptation des plans de sécurité incendie qui leur sont remis pour approbation par les propriétaires de bâtiments qui les ont préparés.
- 15.5 Le Bureau du commissaire des incendies devrait compléter les lignes directrices pour l'élaboration de plans de sécurité incendie pour tout genre d'occupation aussitôt que possible et les mettre à la disposition des propriétaires de bâtiments concernés.
- 15.6 Le Code du bâtiment de l'Ontario devrait être modifié de façon à exiger un plan de sécurité incendie comme condition nécessaire à l'obtention d'un permis d'occupation conformément à la sous-section 2.7.1 du Code du bâtiment de l'Ontario.
- L'article 18a(3) de la *Loi sur les commissaires des incendies* devrait être modifié pour permettre au Code de prévention des incendies de l'Ontario de stipuler qu'il est obligatoire qu'il y ait un plan de sécurité incendie pour les bâtiments en construction.
- 15.7 La définition du mot "occupant" dans le Code de prévention des incendies devrait être modifiée pour comprendre toute personne, société ou compagnie, qui occupe le bâtiment pour quelque raison que ce soit.
- 15.8 Les mots "locataire principal" devraient être définis dans le Code de prévention des incendies de l'Ontario et devraient comprendre toute personne, société ou compagnie qui a autorité sur une partie du bâtiment quelle qu'elle soit, y compris les personnes qui s'y trouvent.
- 15.9 Les alinéas 2.8.2.1(1)(c) et 2.8.3.1(1)(c) du Code de prévention des incendies de l'Ontario ne devraient pas être modifiés, et par conséquent devraient conserver la mention du mot "occupants".

- 15.10 Dans un plan de sécurité incendie, il devrait être fait mention de l'organisation des *principaux locataires* et de la délégation à cette organisation de la responsabilité des mesures de sécurité contre l'incendie. Les paragraphes 2.8.2.1(1) et 2.8.3.1(1) du Code de prévention des incendies de l'Ontario devraient être modifiés en conséquence.
- 15.11 Les ministres et les sous-ministres de chaque ministère du gouvernement provincial devraient prendre conscience des exigences du Code de prévention des incendies de l'Ontario et ils devraient encourager la participation du personnel des ministères.
- 15.12 C'est au propriétaire du bâtiment que devrait incomber la responsabilité d'inclure la marche à suivre pour les exercices d'incendie dans le plan de sécurité incendie. Le service d'incendie examinerait ensuite la marche à suivre proposée par le propriétaire au moment de la révision du plan de sécurité incendie soumis par le propriétaire.
- 15.13 Le Code de prévention des incendies de l'Ontario et la *Loi sur la sécurité incendie dans les hôtels* devraient être clarifiés afin d'imposer aux employeurs (principaux locataires) l'obligation de coopérer avec le propriétaire et d'apporter leur appui aux efforts déployés pour la tenue d'exercices d'incendie.
- 15.14 L'alinéa 2.8.2.4 (l) (a) du Code de prévention des incendies qui stipule que le personnel de surveillance doit recevoir des instructions au sujet de l'utilisation du réseau de communication phonique devrait être appliqué.
- 15.15 Une norme indépendante devrait être développée pour l'essai, l'inspection et l'entretien des réseaux de communication phonique.
- 15.16 Les rapports écrits que les propriétaires de bâtiments doivent tenir à jour, selon le Code de prévention des incendies de l'Ontario, devraient être demandés et examinés pendant les inspections.
- 15.17 Un format régulier de livre de rapport ou registre donnant la liste des *tests* exigés selon le Code de prévention des incendies de l'Ontario ainsi que la fréquence des mises à l'épreuve devrait être stipulé dans le Code de prévention des incendies de l'Ontario.
- 15.18 Le Code de prévention des incendies de l'Ontario devrait être modifié pour que la mention de personnes incapables de marcher au paragraphe 2.8.2.4 (l) devienne "les personnes ayant besoin d'assistance".
- 15.19 Les propriétaires/gérants de tous les bâtiments de grande hauteur et les occupants handicapés devraient s'assurer que la liste de tous les occupants du bâtiment qui sont handicapés, l'endroit où ils se trouvent dans le bâtiment ainsi que la description de leur handicap, soit à la disposition des pompiers quand ils répondent à un appel d'incendie.
- 15.20 Il devrait être interdit de verrouiller de l'intérieur les portes des cages d'escalier d'issue, sauf si le propriétaire du bâtiment peut convaincre l'autorité compétente qu'un étage particulier doit être sûr et que la sécurité ne peut être assurée par aucun autre moyen raisonnable que de verrouiller les portes des cages d'escalier d'issue.
- 15.21 Les portes et les trappes qui donnent sur les toits des bâtiments de grande hauteur ne devraient pas être verrouillées pendant les incendies.
- 15.22 Il devrait y avoir formation d'un comité pour étudier et faire des recommandations sur la possibilité d'intégrer l'utilisation d'hélicoptères pour



- les opérations de sauvetage au cours d'un incendie dans un bâtiment de grande hauteur. Ce comité devrait être formé de représentants des groupes concernés tels que le service d'incendie, la police, les forces armées, les conducteurs d'hélicoptères et les propriétaires de bâtiment.
- 15.23 Les moyens d'évacuation devraient faire l'objet d'une étude intensive au niveau du Code national du bâtiment.
- 15.24 Une norme de rendement pour les masques à gaz à *filtre* devrait être établie et entre-temps la Division des produits dangereux du ministère de la Consommation et des Corporations (Ottawa) devrait développer des renseignements uniformes que tous les fabricants de masques à gaz à filtre devraient être tenus de donner à leurs clients.
- 15.25 Les dispositifs de sortie pour les bâtiments de grande hauteur devraient être évalués par un comité composé de représentants de la Direction du Code du bâtiment et du commissaire des incendies de l'Ontario.

## EPILOGUE

A mon avis, l'existence même de cette enquête publique nous permet d'être optimistes au sujet du progrès dans le domaine de la sécurité incendie. Le Docteur John Bryan a dit: "Je crois que (la sécurité incendie) a déjà été améliorée. . .vous menez cette enquête aujourd'hui et non dans six ans; ça, c'est du progrès." L'enquête a créé un forum où toutes les personnes intéressées à la sécurité incendie ont pu interagir. Il m'a semblé évident que plusieurs dossiers étaient en développement avant la tenue de l'enquête. Je crois qu'elle a servi de catalyseur pour donner un souffle nouveau à ce développement. La progression d'autres études n'était pas marquée d'urgence. A la suite de l'enquête, les personnes participants à ces études ont redéfini leurs priorités.

Ce rapport est le résultat direct et tangible du processus d'enquête. Si le rapport correspond un tant soit peu aux buts à atteindre conformément à l'arrêté en conseil, alors, l'enquête aura été bénéfique.

On peut considérer avec satisfaction la méthode choisie pour étudier et rassembler les différents problèmes. Le Docteur John Bryan a fait ce commentaire, au sujet de la valeur de la méthode employée pour l'enquête:

"Je désire féliciter le gouvernement de l'Ontario et vous tous en tant que citoyens canadiens, pour l'attitude éclairée dont vous faites preuve en procédant à une telle enquête et une telle étude sur ce problème.

Aux Etats-Unis, nous n'avons pas d'études régionales ou nationales de cette ampleur. . .sans parler de la façon dont vous la menez. . .on vous doit des félicitations non seulement parce que vous abordez ce problème, mais aussi pour la façon dont vous l'abordez, c'est cela qui m'impressionne."

L'envisage le futur avec optimisme. Plusieurs propriétaires de bâtiments de grande hauteur voient maintenant l'importance des installations de sécurité incendie. On pourra compter sur les installations améliorées si on les entretient conformément aux exigences du Code de prévention des incendies de l'Ontario. A mon avis, il y aura amélioration de la sécurité incendie dans les bâtiments de grande hauteur si l'on insiste sur les aspects humains de la sécurité incendie tel que suggéré dans le Code de prévention des incendies de l'Ontario et dans mes recommandations.



Je prévois l'interaction continuelle de changements législatifs éclairés, un accroissement de la compétence dans le domaine de la construction, de l'équipement de qualité supérieure, des méthodes d'entretien améliorées, ainsi qu'un renouvellement de l'attention accordée à la planification de la sécurité incendie comme nouvelle assise pour la sécurité incendie.

Je crois que l'on peut être satisfait des méthodes de sécurité incendie telles qu'elles existent actuellement, même avec les nombreuses insuffisances que j'ai notées. Les êtres humains sont capables de s'adapter et vont continuer à l'être. Ils peuvent réagir, et ils réagiront aux changements que subit l'environnement au cours d'un incendie. L'avenir est prometteur si le développement que j'ai observé et prédit se poursuit. Peut-être peut-on dire maintenant que les gens seront capables, s'ils en font l'effort, de répondre à cette question: "Que dois-je faire en cas d'incendie dans un bâtiment de grande hauteur?"





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